MINGOLD RESOURCES INC.

QUETICO (RECONNAISSANCE) PROJECT

OMIP PROGRAM NO. OM90-094

Bulk Till Sampling Program

May - November, 1990

THUNDER BAY AND KENORA MINING DIVISIONS

ONTARIO

by

G. E. Bidwell

November 25, 1990

OMIP 90-094

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I INTRODUCTION

In 1990 Mingold Resources Inc. carried out a reconnaissance till sampling program in the Thunder Bay - Rainy River district of northwestern Ontario. The object of the program was to locate bedrock gold occurrences through the study and analysis of the overlying glacial till. Although reconnaissance in nature the efforts were directed within or just down-ice of known gold areas or locations with favourable geological conditions for gold formation.

Large (20-25 kg) samples were collected from shovel dug pits and processed through a series of stages to produce a heavy mineral concentrate. The concentrate was examined for the presence of gold grains and assayed for a 34 element package by neutron activation. Small character samples, unprocessed, were also assayed for a seven element package.

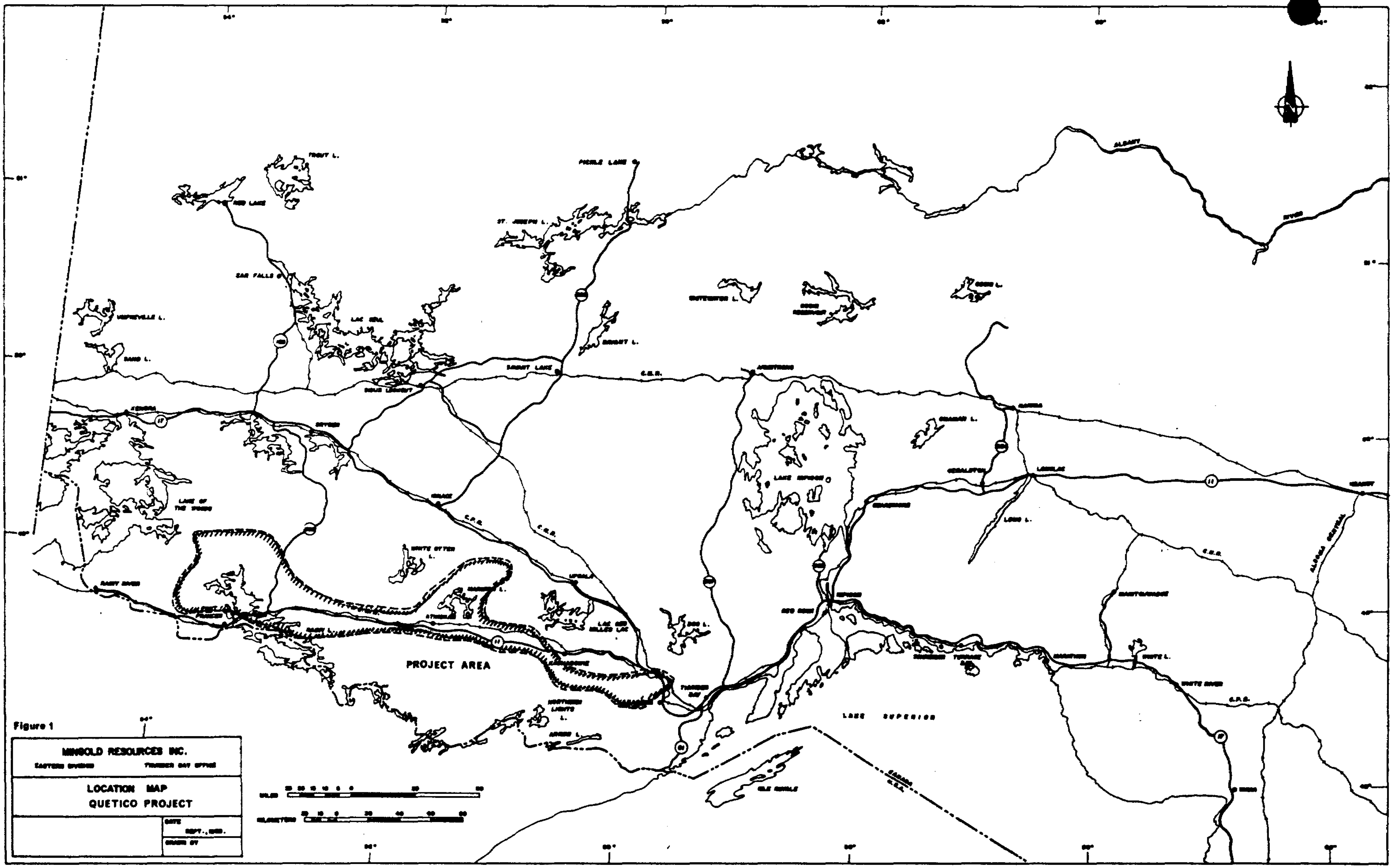
A total of 823 samples were collected from May to September, 1990. Numerous anomalous values in both gold grain count and gold assays were obtained. Minor follow-up has been undertaken.

II GENERAL GEOLOGY AND EXPLORATION

The project area occurs within the Wabigoon, Quetico and Wawa Subprovinces of the Archean Superior Province (Fig. 1). The Wabigoon and Wawa Subprovinces are granite-greenstone terrains comprised of supracrustal assemblages of predominantly metavolcanic origin and subordinate amounts of sedimentary rocks, intruded by granitoid rocks mainly of batholithic dimensions. The Quetico subprovince consists of an assemblage of predominantly metasedimentary gneissic rocks, their migmatitic derivations and granitoid rocks.

The Wabigoon subprovince is bounded on the south by the Quetico Fault, a major east-west dextral strike slip zone that extends for a distance of 375 km from Dog Lake, north of Thunder Bay to Rainy River on the Minnesota-Ontario border where it passes into the U.S.A. and is masked by recent cover. This major deformation zone has numerous subsidiary faults off the main structure which play or horsetail into the adjacent rocks.

The Quetico project area has a long history of gold exploration dating back to the late 1800's In the western portion of the area both Mine Centre and Atikokan produced gold in the 1893-1902 period. Total production at that time and during subsequent activity totalled 25,000 ounces of gold. Along the eastern section of the Quetico Fault and in the Shebandowan area gold production has totalled about 50,000 ounces from the Ardeen Mine (1932-36) and as a by-product at the North Coldstream mine. In the 1980's the whole belt was extensively explored with major gold programs at Moss Lake and Gold Creek in the Shebandowan Belt, Hammond Reef and Fern Elizabeth near Atikokan and some of the old occurrences in the Mine Centre area.


PROJECT AREA
Figure 1
MINGOLD RESOURCES INC.
LOCATION MAP
QUETICO PROJECT

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III QUATERNARY GEOLOGY

Although four major episodes of glaciation have been recognized in the region only the last ice advance, the Wisconsin ice age, considered to be significant in this study. Glacial and interglacial deposits older than the Wisconsinan are not well known. Presumably much of the older material was destroyed and what exists is deeply buried. The Wisconsin ice age began about 100,000 years ago and originated from a source in northern Quebec/Labrador. The orientation of the ice flow features and glacial striae indicates that the continental ice mass spread in a south to southwesterly direction. In the western section of the Quetico Project area recent glacial studies (Mining, 1988, 1989, Cowan, 1987) of the glacial stria have a mean value of 219° (S39W). Approximately 20,000 years ago the ice reached its maximum extent and began to recede. The ice had withdrawn from the Quetico area by 10,000 years ago.

As a glacier advances rock fragments are incorporated into its base and frozen in the ice. The resulting unsorted mixture of fragments, ranging from boulders to sand, silt and clay sized material is called till. When deposited directly beneath the ice by the processes of lodgement and melt out, this debris is called subglacial, lodgement or basal till. When deposited from within, or on the ice as the result of melting it is called supraglacial or ablation till. In mineral exploration an important distinction between the two varieties in that the former tends to reflect the local bedrock and the latter usually contains rock fragments transported within the ice for greater distances.

Waters produced during the deglaciation process may rework and sort the till debris. Glaciofluvial deposits are sand and gravel deposited by streams near the ice margins and form large scale features such as eskers and moraines. The meltwater also transports large volumes of fine sediments into glacial lake basins. These glaciolacustrine deposits form broad flat poorly drained plains.

In mineral exploration, particularly for gold, it is best to sample the unsorted till. It provides primary material (first derivative) directly down-ice of its source. With glaciofluvial and glaciolacustrine second derivation deposits the debris will be moved off line of the ice direction and the gold particles may be concentrated in specific horizons or traps in the glacial drift.

Glacial drift cover in the study area for the most part is quite thin and sporadic except at the extreme west and where a separate ice advance deposited a clay-rich till covering the Rainy River district. Quaternary studies generally conclude the glacial drift is fairly local in origin and has not been transported from great distances.

IV PROCEDURES

(a) Planning

Areas were selected for sampling based on their potential for gold occurrences and also for their accessibility.

Regional-scale shear zones in northwestern Ontario are important targets for gold mineralization. Most of the major gold deposits, eg. Red Lake, Beardmore-Geraldton, Golden Patricia, Favourable Lake, Musselwhite, are located in the vicinity of large east-west or northwest trending breaks. Recent detailed studies of these structures have shown that most of the occurrences are actually located on subsidiary faults off the major structures. These secondary features generally splay or horsetail into adjacent greenstone belts or along granite-greenstone contacts where a competency contrast exists between the lithological units. The difference in shearing ability along say, an iron formation/volcanic or quartz porphyry/volcanic contact, focuses an initial fault rupture which may later host gold bearing hydrothermal fluids.

With the above thesis in mind it was proposed that a reconnaissance till sampling program be carried out along the Quetico Fault. The location of the Fault just to the north of Highway 11 makes this technique an excellent exploration method. Ice movement was in a southwesterly direction, therefore gold grain counts from occurrences near the structure should be recoverable on or near the highway. As well there are numerous logging roads in the area providing access. With the accelerated gold activity in the Moss Lake area it was decided to extend the program into the Shebandowan greenstone belt as well.

(b) Fieldwork

Sample collection was carried out from May to September, 1990. Ideally samples were taken along NW fences (across the ice direction) with sample sites at 1 km intervals. In areas of known occurrences or very favourable conditions for gold, the sample interval was reduced to ½ km spacing.

Approximately 60% of the samples were taken along roads by truck. The remaining 40% were collected equally by boat and all terrain vehicles. Most samples weighed in the 20 - 25 kgm. range, hence the need for good access.

In most cases the till was sampled in the near vicinity of outcrop since this provided the most likely location for a basal till. It was also considered that the down-ice (SW) side of the outcrop, being on the lee side of the glacial direction, would be the more likely location for till to have been deposited. Almost all the till samples were collected from shovel dug pits averaging ½ metre in depth. In a few areas of particular interest an auger drill was used which could reach a 2 metre depth. At the same time as the main bulk till was collected, which would go through the concentration process, a second "character" sample was taken in a geochem envelope. During collection bedrock lithology was also noted as well as a description of the material sampled.

The 20 - 25 kgm sample was put through the 3 stage concentration process. After weighing the material was fed through a 7.5 inch Knelson concentrator. The Knelson concentrator is essentially a high speed centrifuge rotating at 400 rpm generating 60 g's of force. Before concentrating the feed is first wet screened through a 6mm vibrating screen. The coarse fraction (+6mm) is weighted, examined for its pebble litholigies and is then dumped. The -6mm fraction enters the 7.5 inch diameter centrifuge as a gravel slurry. The centrifuge is a ribbed cone which traps the heavy minerals in the ribs and displaces the lighter material. The replacement of the light minerals by the heavy minerals in the ribs in enhanced by injecting water through a series of perforations in the cone wall thus fluidizing the material. This process results in a concentrate of approximately 2.5 kg.

The 2.5 kg of concentrate is fed through a 2mm screen. The fine fraction then enters a second small Knelson concentrator with a 3 inch diameter bowl. Working on the same principle as the larger concentrator this small unit produces a heavy mineral concentrate of approximately 200 gms. Both the coarse fraction (2-6mm) and the lights from this concentrator are retained for possible examination at a later date.

The 200 gm of heavy minerals then enters the third stage of the concentration process. The material is hand panned down to a maximum of 50 grams. The 50 gm limitation is based on the size of the largest vial that can be used in the neutron activation analysis. In actual fact the sample is panned down to whatever size is necessary to determine if gold grains are present. If gold grains are identified they are counted and examined with a panning scope to determine their size and shape. At the same time estimates of other heavy mineral (pyrite, garnet, magnetite) and their percentages are made.

After the panning is complete the samples are dried and tested with a UV lamp for fluorescent minerals and a gamma ray spectrometer for radiation. The samples were then placed in plastic vials and sent to Activation Laboratories Ltd. for instrumental neutron activation analysis (INAA).

INAA is an analytical technique which is dependent on measuring primarily gamma radiation which is emitted by the radioactive isotopes produced by irradiating samples in a nuclear reactor. Each element which is activated will emit a "fingerprint" of gamma radiation which can be measured and quantified. The samples were analyzed for 34 elements ("Au +33") as listed below.

element	detection limit		element	detection limit		element	detection limit	
Au	5.	ppb	Ag	5.	ppm	As	2.	ppm
Ba	200.	ppm	Br	5.	ppm	Ca	1.	%
Co	5.	ppm	Cr	10.	ppm	Cs	2.	ppm
Fe	0.02	%	Hf	1.	ppm	Hg	5.	ppm
Ir	40.	ppb	Mo	20.	ppm	Na	500.	ppm
Ni	200.	ppm	Rb	50.	ppm	Sb	0.2	ppm
Sc	0.1	ppm	Se	20.	ppm	Sr	0.2	%
Ta	1.	ppm	Th	0.5	ppm	U	0.5	ppm
W	4.	ppm	Zn	200.	ppm	La	1.	ppm
Ce	3.	ppm	Nd	10.	ppm	Sm	0.1	ppm
Eu	0.2	ppm	Tb	2.	ppm	Yb	0.2	ppm
Lu	0.1	ppm						

The "character samples", collected in a separate soil envelope, were dried and sent to Bondar-Clegg for analysis of a 7 element package as follows:

element	detection limit		extraction	method
gold	5	ppb	aqua regia	FA-AA, 30 gm wgt
arsenic	1	ppm		neutron activation
antimony	0.2	ppm		neutron activation
copper	1	ppm	$HCl-HNO_3$(3.1)	atomic absorption
zinc	1	ppm	$HCl-HNO_3$(3.1)	atomic absorption
silver	0.2	ppm	$HCl-HNO_3$(3.1)	atomic absorption
lead	2	ppm	$HCl-HNO_3$(3.1)	atomic absorption

(c) Analysis of Results

All the collecting, processing, laboratory and assay results were compiled on a computer spreadsheet program. The results are shown on Tables 1, 3, 5 and 7.

In order to evaluate the various gold results (grain counts and size, concentrate assay, character sample assay) the data was subjected to various procedures. Initially the gold assay of the heavy mineral concentrate (HMC) in ppb and its mass were used to determine the actual amount of gold in the sample. This is shown in the "concentrate assays" portion of the tables in the "Au mgn" column. These numbers are the actual weight of gold in the sample measured in micrograms. The micrograms of gold and the number of gold grains are then "normalized. Since obviously the weight of the gold and the number of gold grains in a sample will depend on the original sample weight it becomes necessary to "normalize" your grain counts and gold weight to a standard original sample size. The sample size selected was 20 kg of -6mm material. Since the +6mm material was screened off and weighted before concentration this is an easy calculation. The normalized gold grains and micrograms are shown in the two columns to the left of the "concentrate assay" section on the tables.

A final procedure was required to somehow develop a "gold rating" for each sample which would involve the normalized grain count and microgram data along with the gold assay of the character sample. This "gold rating" column on the right hand side of the tables is an attempt to do this. The gold rating is an abstract number which obtains 60-70% of its value from the concentrate assay, 25-30% from the grain count and 5-10% from the character sample assay.

The gold rating was obtained as follows:

$$\text{gold rating} = \frac{\substack{<.05\text{ mm}\\ \text{gold grains}}}{3} + \frac{\substack{.05-.1\text{ mm}\\ \text{gold grains}}}{2} + \frac{\substack{.1-.2\text{ mm}\\ \text{gold grains}}}{1} + \frac{\substack{.2-.3\text{ mm}\\ \text{gold grains}}}{0.5} + \frac{\substack{.3-.4\text{mm}\\ \text{gold grains}}}{0.25}$$

$$+ \frac{\substack{.4-.5\text{ mm}\\ \text{gold grains}}}{0.1} + \frac{\substack{>.5\text{ mm}\\ \text{gold grains}}}{0.05} \times \frac{\substack{\text{normalized}\\ \text{gold grains}}}{\text{actual gold grains}} + \frac{\substack{\text{microgms of gold}\\ \text{in concentrate}}}{5} + \frac{\substack{\text{character sample}\\ \text{gold assay}}}{35}$$

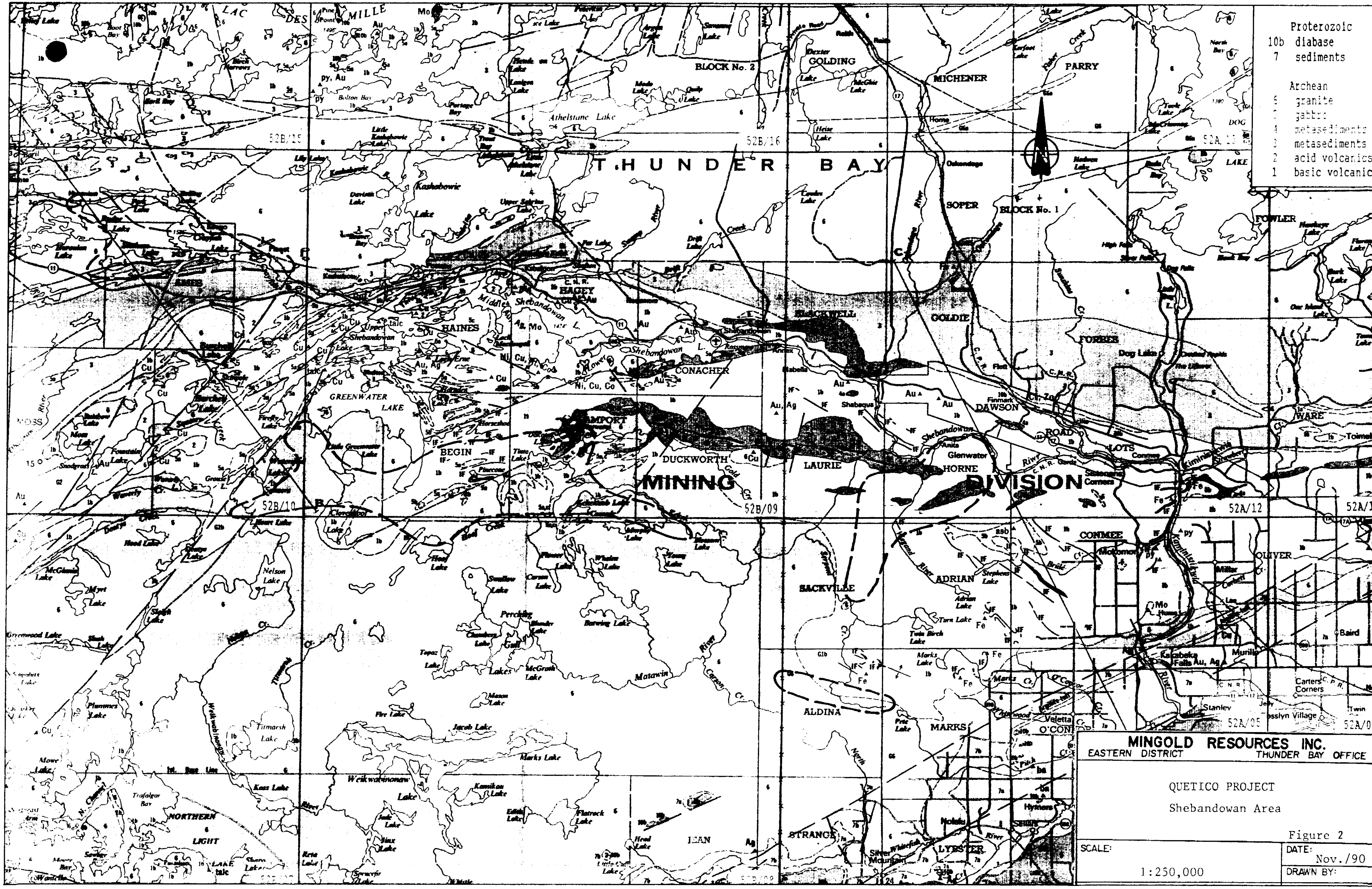
V SHEBANDOWAN AREA

(a) Geology and Mineral Occurrences (Fig.2)

The Shebandowan greenstone belt, stretching 105 km west from Thunder Bay (Figs. 1,2), is located within the Wawa Subprovince of the Superior Province. It is predominantly underlain by metavolcanic rocks, which have been divided into two broadly contrasting age groups: (1) older metavolcanic suites with lesser metasedimentary intercalations, thought to be older than 2.7 billion years; and (2) younger metavolcanic assemblages associated with a large metasedimentary package, both thought to be younger than 2.7 billion years, (Chorlton, 1987). The younger group, which lies unconformably on the old metavolcanic rocks and appears representative of a different depositional environment, is referred to as Timiskaming-type rocks.

The older metavolcanic terrane can be divided into three main associations: (1) massive mafic flows which locally include ultramafic flows and iron formation; (2) mafic to intermediate pillow lavas and pillow breccia with minor iron formation and interlayered metasediments, associated locally with pyroclastics; and (3) felsic volcanic complexes, including abundant pyroclastic rocks and subvolcanic, intrusive to extrusive, rhyolite domes and porphyries.

Several belts of alluvial to fluviatile sedimentary and associated calc-alkaline to alkaline volcanic rocks, Timiskaming-type sequences, unconformably overlie the older succession. The volcanic rocks include nonmarine flow and pyroclastic rocks, consisting largely of hornblende and plagioclase-phypric basalt, andesite and dacite. These rocks are extensively exposed in the eastern half of the Shebandowan greenstone belt where a "Timiskaming-type" volcanic centre has been identified.



Proterozoic
10b diabase
7 sediments
Archean
5 granite
gabbro
4 metasediments
3 metasediments
2 acid volcanics
1 basic volcanics
THUNDER BAY
MINING
DIVISION
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EASTERN DISTRICT
THUNDER BAY OFFICE
QUETICO PROJECT
Shebandowan Area
Figure 2
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The earliest intrusive rocks, which include diabase, diorite and ultramafic intrusions, are considered broadly coeval with the older volcanics. Later intrusions include quartz diorite and feldspar or quartz feldspar porphyries. The younger felsic intrusions are more potassic and consist of granite and quartz syenite.

The Shebandowan rocks are deformed along numerous, northeasterly to easterly trending, now carbonatized and sericitized shear zones with an initial sinistral shear sense, and then further deformed by more easterly to southeasterly trending minor fault and shear zones (Chorlton, 1987). The carbonatization may have continued from the earlier shear regime and was followed by the introduction of quartz in multiple veins and stockworks which carry most of the gold values in the area.

Schneiders and Dutka (1988) recognized two distinct environments of gold mineralization in the Shebandowan area:

Type 1) Shebandowan Stock-Contact Zone Type: Gold mineralization occurs in quartz ± carbonate veins in shear zones, related to the Shebandowan Stock. The gold mineralization appears to be directly related to areas affected by two deformational periods. Examples include the Band-Ore Prospect, Frank West Prospect, Hayne's Shebandowan Occurrence, Lobanor Occurrence, Calvert Occurrence and Ourgold Occurrence.

Type 2) Chert-Stratabound Type: Gold mineralization occurs in a chert-chert breccia unit, with possible syngenetic implications and/or epigenetic concentration during dynamic metamorphism and/or deformation. Examples include the Dawson Road Lots Occurrence, Birch Bay Occurrence, Mattawin Occurrence and Kasper Occurrence.

The area has a long history of mineral exploration. One of the earliest gold mines in NW Ontario, the Ardeen (Huronian, Moss, Kerry) Mine was discovered in the southwestern arm of the belt in 1870 (#15 on Fig. 2) and produced 29, 629 ounces of gold in 1932-36. Auriferous quartz veins are sited along northeast trending shear zones. The North Coldstream Mine, on the east side of Burchell Lake (#5 on Fig. 2) dates back to 1872 but had the bulk of its production in 1960-67. Disseminated and stringer chalcopyrite hosted by a massive silicious lense produced approximately 2.5 million tons of 2.0% Cu and 0.012 oz Au/ton. The Shebandowan nickel-copper Mine is on the south shore of Shebandowan Lake (SW corner of Hagey Twp.) and was discovered in 1913. It has been in semi-continuous production since 1972 at a rate of 2000 tpd. Nickel-copper sulphides (massive, breccia, stringers) are hosted by an ultramafic unit which may be of intrusive or extrusive origin.

Like most gold areas the Shebandowan greenstone belt was extensively explored in the 1980's. Two gold occurrences continue to be of particular interest as they both have a large tonnage low grade gold potential. The Stewart property in the north central portion of Conmee Twp., and the Snodgrass prospect in the western part of the belt (4 km east of Ardeen Mine) continue to attract special attention. At the Stewart property gold and minor copper values are associated with breccia on a contact aureole of an alkalic stock. At the Snodgrass prospect gold mineralization is in albitized shear zones and fractures in an altered diorite stock.

For a complete listing of mineral occurrences in the area see the 50,000 scale data maps.

(b) Fieldwork (Fig. 3 to 11)

Till sampling in the Shebandowan greenstone belt was mainly carried out on the south (down-ice) side. A total of 199 samples were collected with a large majority being taken along logging or other access roads in the area. Sample spacing was normally 1 km but preference was given to areas with intermittent outcrops where drift cover was thin. The bulk of the samples were collected by truck with a minor proportion by ATV.

(c) Results (Table 1)

A total of 199 bulk till samples were collected in the Shebandowan area with an average weight of 25.7 kgm. The majority of the tills were taken on the south (down-ice) side of the central part of the greenstone belt from Kaministikwa to Greenwater Lake (Fig. 2). Overall pebble counts of the coarse +6mm fractions of the tills indicate the source lithologies of the drift is 50% felsic intrusives, 40% metavolcanic and 10% of metasedimentary origin.

Gold counts in the 199 samples totalled 500 grains for an average of 2.5 grains per sample. Approximately 90% of these grains were less than 0.2 mm in diameter. Five grains were panned in the 0.4 - 0.5 mm range, the largest particles seen in the area. The highest count in a sample was 13 colours in GL 43 from the Greenwater area.

The percentage of magnetite, pyrite and garnet in the concentrates varied considerably with maximums of 95, 30 and 20% respectively. As all the samples were taken from shovel dug pits, within 1 metre of surface, most of the sulphide minerals have been oxidized. The presence of copper (chalcopyrite or native copper) was noted in 2 concentrates. Lamping with a UV light indicated minor scheelite and zircon. Spectrometer readings gave only background radiation levels.

TABLE 2 **SHEBANDOWAN ANOMALIES**

Sample No.	NTS Location	Normalized Values Gold Grains	Normalized Values Gold Micrograms	Character Sample Au ppb	Gold Rating	Notes
MG 53	52B/09	22	84.1	74	24	all samples located in Greenwater claim block (Fig. 11)
MG 55	52B/09	11	64.0	7	17	
MG 56	52B/09	5	216.9	59	66	
MG 58	52B/09	5	38.9	36	22	
GB 45	52B/09	16	61.5	-	21	
GB 46	52B/09	11	30.6	-	18	
GB 48	52B/09	4	18.5	-	17	
GL 9	52B/09	16	34.0	3	17	
	no. of samples	199	199	184	199	
	minimum	0	0.0	3	0	
	maximum	22	216.9	88	66	
	mean	3	9.8	6	4	
	standard dev.	3	19.0	10	6	
	anomalous threshold (mean + 2 std.dev.)	9	47.8	27	16	

Gold assays in the concentrates reached a maximum of 5,250 ppb Au. The mean value was 288 ppb Au. Converting the assays to the weight of gold (micrograms) in the sample and normalizing the value to a standard sample weight results in an average of 9.8 microgms of gold per sample with the maximum value of 216.9 micrograms.

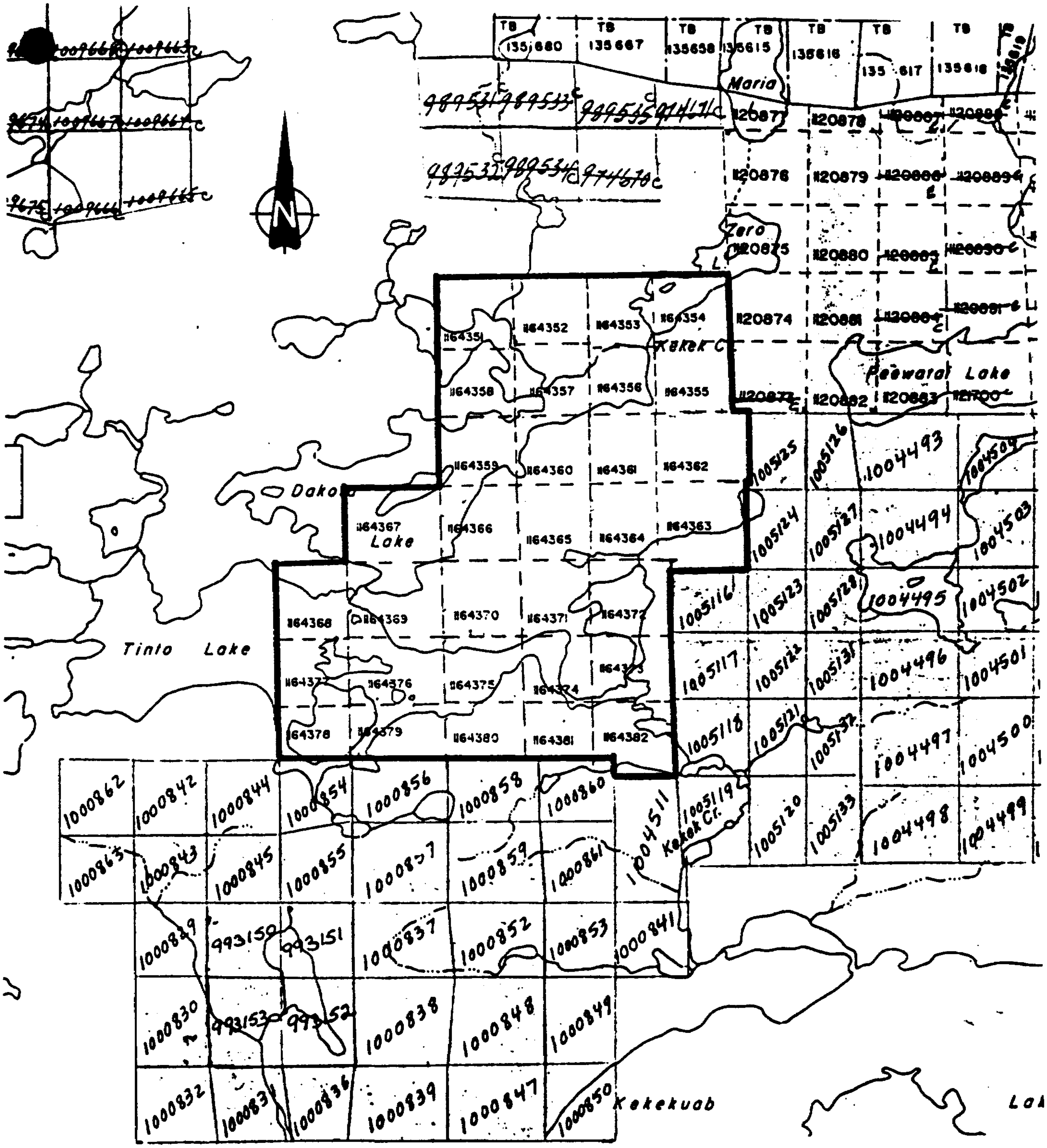
Several elements in the 34 element assay package for the concentrates were below detection levels. In particular all the silver, bromine, mercury, iridium, molybdenum and strontium values were below the detection limits. No in depth analysis or correlation of the concentrate assay results was carried out, however the number of samples, minimum values, maximum values, mean, standard deviation, variance and an anomalous threshold (mean + 2 standard deviations) for each element is given at the bottom of Table 1. No correlation of high gold values with other elements is obvious.

Most of the sample sites had character samples taken as well as the bulk tills. In all 184 character samples were collected. Four samples had gold values greater than 50 ppb. A minor correlation of these gold values with zinc is noted. No other elemental associations with the better gold values was detected.

Gold ratings, as outlined in Section II, have been determined for each sample. The mean rating for the Shebandowan area is 4 and the anomalous threshold is set at 16. Eight samples exceed the threshold, with a maximum gold rating of 66. The samples are listed in Table 2. All eight tills are located in Begin Twp. southeast of Greenwater Lake. A block of 40 claims was staked to cover the probable source area for these anomalous tills. This activity is discussed separately in a following section (Greenwater Block). It is interesting to note that GL43 with the highest gold grain counts of the Shebandowan area does not have an anomalous assay value. One must conclude that in this till not all the particles counted were actually gold. However a more general comparison of the gold grain counts and the gold assay values indicates a reasonable similarity in determining anomalies.

(d) Tinto Block (Figs. 8, 9)

During the course of the 1990 reconnaissance program in the Shebandowan belt two claim groups were staked because of anomalous gold assay results and favourable geology. In the Tinto Lake area of Lamport Twp. 6 km south of Inco's Shebandowan Mine 32 claims were staked (Fig. 8). The Tinto block was acquired because of a favourable mafic metavolcanic sequence with intercalated iron formation and mafic intrusives at the west end of the Mattawin Iron Range. Northeast directed faults have provided a plumbing system for possible injection of gold.



MINGOLD RESOURCES INC.
EASTERN DISTRICT THUNDER BAY OFFICE

TINTO LAKE CLAIMS
(claim map G-668)

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Figure 8

The property consists of 32 claims staked in July of 1990 within the central portion of Lamport Twp. and are located on claim map G-668, of the Thunder Bay Mining Division. The claims are numbered: 1164351 to 1164382 inclusive (Fig. 8). The claims are currently held in the name of Mingold Resources Inc. (license No. T-4617) located at P.O. Box 28, Toronto Dominion Centre, Toronto, Ontario M5K 1B8.

A one week geological mapping and basal till sampling program was completed over the claim block. Mapping and sampling was mainly confined to the shorelines of Dakota and Tinto Lakes. The rocks consists of felsic to mafic volcanics along with clastic sediments and magnetite iron formation in the northerly part of the claims. In the southern portion of the claim block local small granite plugs and gabbroic intrusives lie, within the volcanics. No significant alteration or mineralization was observed during the mapping program. A total of 29 bulk till samples were collected on the claim block with some additional sampling outside the claims (Fig. 9).

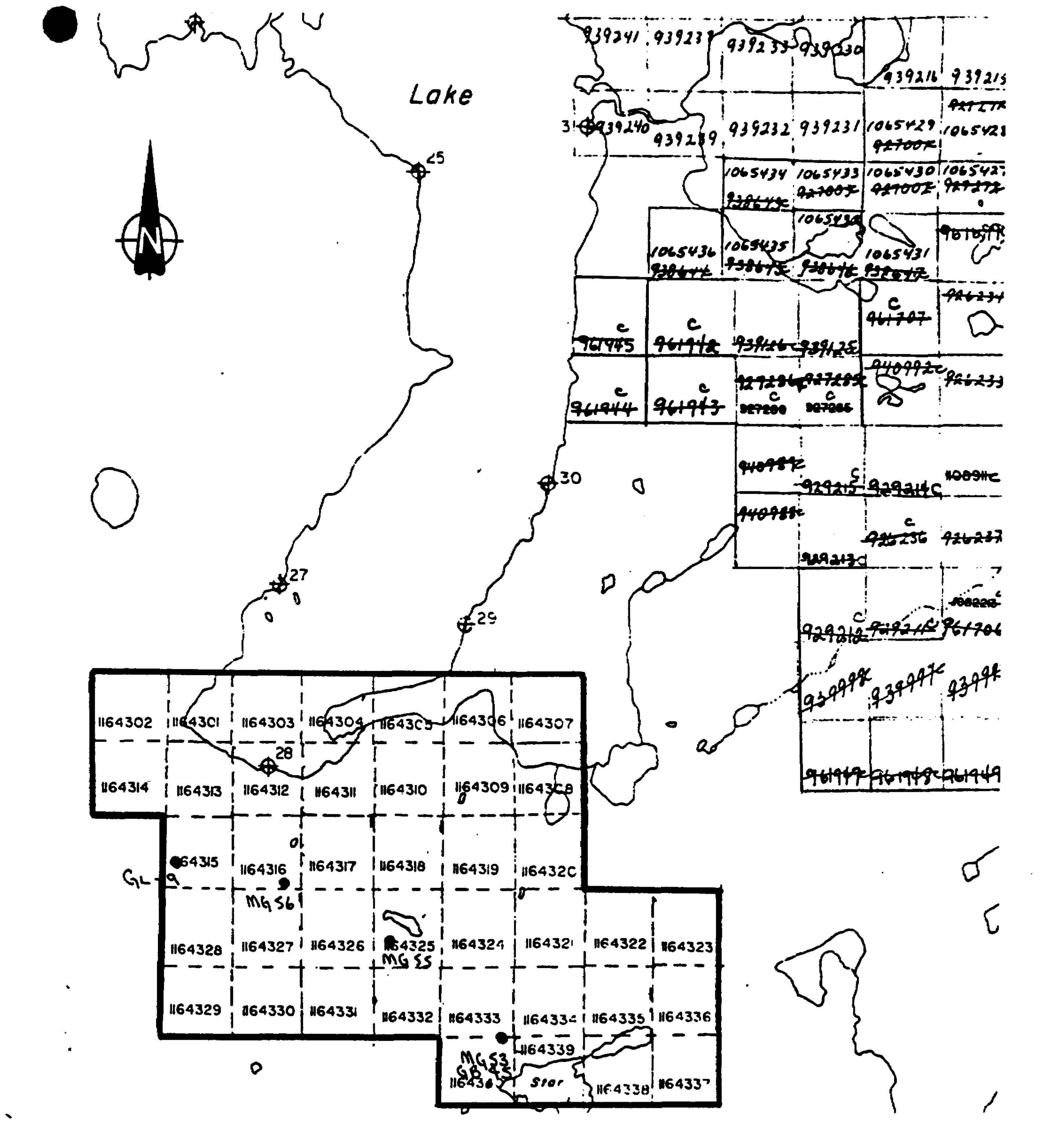
During the mapping program no significant mineralization or alteration was observed and there was a total absence of sulphidation of the magnetite iron formation. None of the follow-up till sampling produced anomalous results. Since both the gold grain particle counts and gold assays obtained from the till samples collected on the Tinto Lake block were negative the claims should be allowed to lapse.

(e) Greenwater Block (Figs. 10, 11)

The Greenwater Lake claim group was staked in response to anomalous gold values in reconnaissance bulk till samples along forestry roads. Samples MG53 to 58 gave anomalous grain counts and gold assays in the regional survey. To confirm the original results GB 38 to 52 were collected as an initial follow-up. The anomalies were substantiated and the claim group was acquired.

The claim block in the south central part of Begin Twp. touching the southeast arm of Greenwater Lake. Access to the area is by Canadian Pacific Forest Products logging roads (Hough Lake and Otto Lake Roads). Good access to most parts of the claims within the block is provided by a network of trails and skiddo roads.

The property consists of 40 claims staked in the summer of 1990 within the south centre portion of Begin Twp. and are located on claim map G-643, Thunder Bay Mining Division. The claims are numbered: 1164301 to 1164340 inclusive (Fig. 10). The claims are currently held in the name of Mingold Resources Inc. (license No. T-4617) located at P.O. Box 28, Toronto Dominion Centre, Toronto, Ontario M5K 1B8.



MINGOLD RESOURCES INC.

EASTERN DISTRICT — THUNDER BAY OFFICE

GREENWATER LAKE CLAIMS

(claim map G-643)

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Figure 10

A one week program of geological mapping and basal till sampling was completed on this 40 claim block. The mapping and sampling was concentrated along logging and skidder roads. The bedrock geology is dominated by mafic volcanic rocks along with minor felsic tuffaceous rocks to the south. The volcanics are intruded by lenticular gabbroic sills. The northeast trending volcanic-gabbro contacts are marked by sheared choritic contact zones. Granitic intrusives occupy the extreme southeast corner of the claim block. A total of 76 bulk till samples were collected up-ice and in the claim area with 37 of these within the claims. A few of the samples produced anomalous results bur neither an up-ice cut-off nor a well defined dispersion train was outlined with the limited work. For processing data, gold grain counts and assay results see Table 1. The more westerly tills came from sandy-gravelly material which does not appear to be a good basal till. Grain size analysis of this material is required.

It is recommended that (1) detailed till sampling be carried in close proximity to the anomalous tills and (2) a brief study be undertaken of the glacial drift in the general area to determine its relationship to the anomalous values.

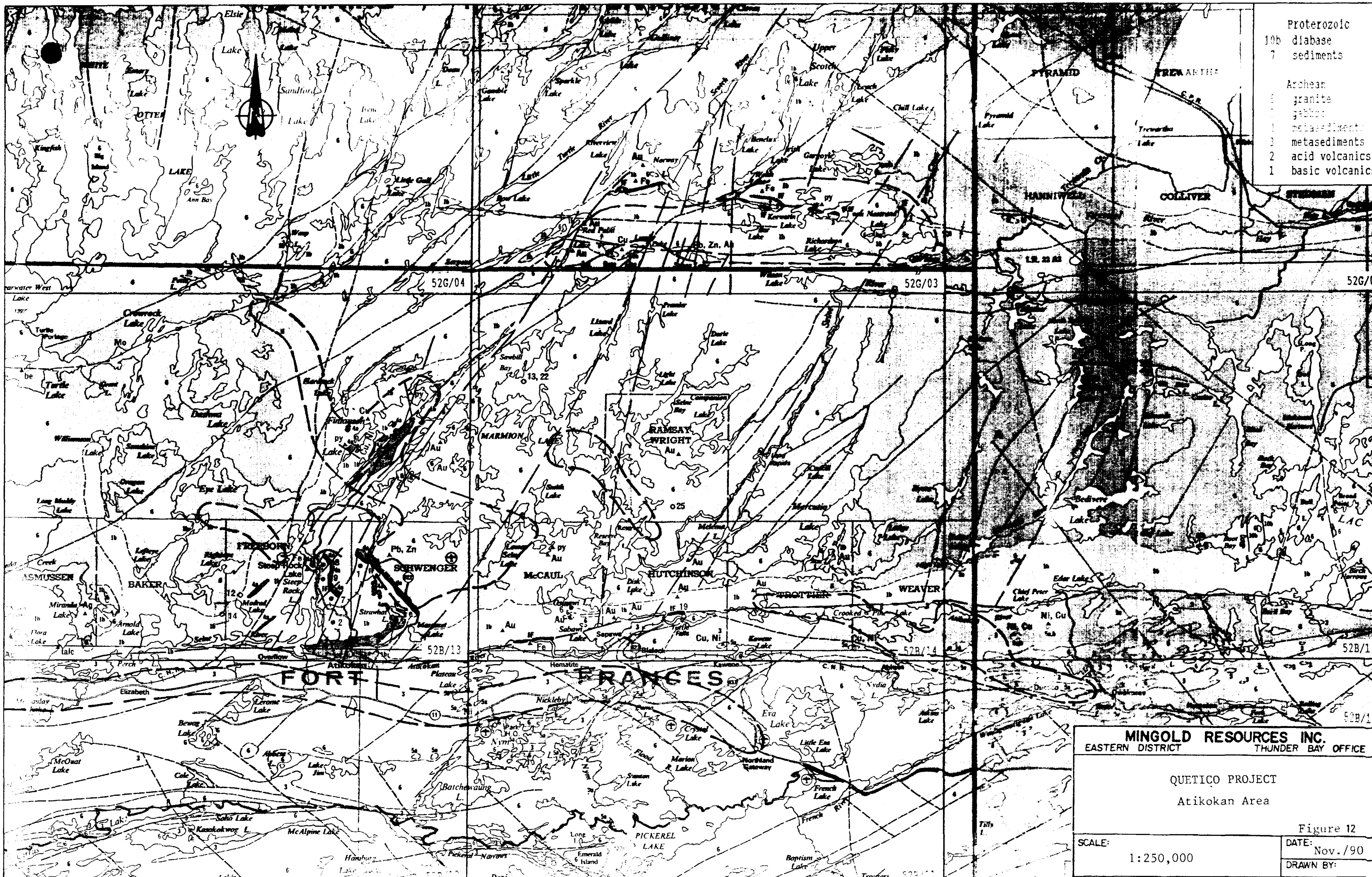
VI ATIKOKAN AREA

(a) Geology and Mineral Occurrences (Fig. 12)

Atikokan is located approximately 200 km west of Thunder Bay. The area is underlain by Archean rocks of the Superior Province, including parts of the Wabigoon and Quetico subprovinces. The east trending Quetico Fault marks the boundary between the subprovinces.

The Wabigoon Subprovince, north of the fault, is composed of narrow metavolcanic belts and granitic batholiths. The metavolcanics are mainly metamorphosed varieties of mafic to intermediate flows interdigitated with felsic volcanic rocks and minor sedimentary units. The Marmion Lake Batholith in the east-central part of the study area is a complex of gneissic trondhjemites and monzonites. The Dashwa Lake Batholith in the western half of the area is composed of mainly biotite and hornblende granite, quartz monzonite, quartz diorite and granite gneiss. Minor granodiorite and trondhjemite occur in the contact zone between the metavolcanic belts and batholiths.

South of the Quetico Fault, the dominant metasediments form a belt which is contiguous across the southern part of the study area. The rocks consist of metamorphosed wackes, argillites and carbonaceous sediments. Small ultramafic sills and granitic stocks occur throughout the metasedimentary belt.



MINGOLD RESOURCES INC.
EASTERN DISTRICT THUNDER BAY OFFICE

QUETICO PROJECT
Atikokan Area

Figure 12

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The Quetico Fault is the dominant regional structure. It extends easterly across the area, marked by prominent lineaments and bounded by zones of schistose to mylonitic rocks. Movement along the fault was primarily right-lateral horizontal displacement. East of Perch Lake, several lineaments trend toward the northeast from the Quetico Fault. Some of these lineaments can be traced up to a distances of 80 km.

Gold occurrences are common throughout the area and these general types of mineralization have been recognized (Wilkinson, 1982):

i) Marmion Lake Batholith Type - quartz veins within shear zones associated with northeast - trending lineaments in the batholith;
ii) Contact Zone Type - quartz-carbonate veins within narrow shear zones located at or near the contacts of batholiths and metavolcanic belts; and
iii) Metavolcanic-Hosted, Stratabound Type - concordant lenses of chert or carbonate with associated quartz-carbonate veins, hosted by metavolcanics.

Gold, in all three styles of mineralization, is concentrated in quartz and quartz-carbonate veins with subsidiary silver, copper, lead and zinc. The process of gold enrichment into the veins is multi-stage and is a combination of some or all of the following:

- deposition or emplacement of the host granitic rock into the country rock;
- alteration of the host granitic rock by hydrothermal solutions and formation of the veins; and
- hydrothermal mobilization of gold and its ultimate deposition in the veins.

The first gold discoveries in the Atikokan area were in the 1890's but very little production has actually taken place. The Sapawa Mine, 17 km east of Atikokan (#6 on Fig.12) produced 4,500 oz of gold in 1964-66. Gold values are in quartz veins hosted by felsic intrusions of the Marmion Lake Batholith and minor mafic volcanic units. Minor production has also come from the Sawbill, Harold Lake, Hammond Reef, Elizabeth and Sunbeam properties.

For a complete listing of mineral occurrences in the area see the pertinent 50,000 scale data maps.

(b) Fieldwork (Figs. 13 to 18)

Sample collection in the Atikokan area was accomplished by both road and lake access. A 50 km stretch of Highway 11 from Eva Lake west to Banning was sampled at 1 km intervals. This gave good coverage 2-8 km down-ice of the Quetico Fault. Sampling by boat was carried out on Marmion, Crooked Pine, Crayfish and Baril Lakes. The western part of the Upsala greenstone belt was also sampled as part of this area. Access is by Highway 623 which leaves Highway 11 at the Sapawe corner.

(c) Results (Table 3)

A total of 246 bulk till samples were collected in the Atikokan area with an average weight of 24.4 kgm. The coarse (+6mm) fraction averaged 6.0 kgm. A general outline of the area sampled is shown on Figure 12. Pebble counts of the coarse fraction indicate the drift lithologies are approximately 40% felsic intrusives, 35% metasedimentary and 25% metavolcanics.

Gold counts in the 246 samples totalled 156 grains for an average of 0.6 grains per sample. This is a considerable reduction in gold particles as compared to the Shebandowan area. The majority of the Atikokan grains were in the 0.05 - 0.3 mm range. Two samples from the Upsala greenstone belt has large gold grains in the 0.5 mm range. The sample with the most gold grains was A87 with 13 counts.

The percentage of magnetite, pyrite and garnet in the concentrates varied considerably with maximums of 80, 20 and 45% respectively. Minor sphalerite was noted in two of the concentrates from the Upsala greenstone belt but, as elsewhere, samples were taken from oxidized drift and few sulphide grains could be expected. UV lamping and spectrometer readings indicated nominal or background levels.

Gold assays in the concentrates reached a maximum of 3250 ppb Au. The mean gold value was 242 ppb, only slightly below the Shebandowan mean value. The normalized gold values for a 20 kgm standard sample size averaged 9.7 micrograms of gold. The maximum was 148.1 micrograms.

As in Shebandowan there is no obvious correlation of the better gold values with any other element in the 34 element package. In fact for half the elements the majority of the individual values are below the INAA detection limits making that portion of the data meaningless. A statistical summary for each element is shown at the bottom of Table 3.

Character samples were collected along with the bulk material to be concentrated. Only two of the character samples has gold values greater than 50 ppb Au and neither of these had corresponding elevated gold in the heavy mineral concentrate.

Gold ratings in the Atikokan area have a mean value of 3 and an anomalous threshold of 13. The maximum rating was 41. Twelve samples are considered anomalous.

In NTS area 52B/11 (Fig. 13) sample A 58 has a rating of 16 based largely on its concentrate assay. Its grain count, normalized at 2, is low but the particles are moderately large. There is no correlation with other elements except for slightly elevated copper in the character sample. This sample was taken on Highway 11 approximately 5.5 km down-ice of gold showings on the north shore of Sapawe Lake. No follow-up was undertaken.

TABLE 4 ATIKOKAN ANOMALIES

Sample No.	NTS Location	Normalized Values Gold Grains	Normalized Values Gold Micrograms	Character Sample Au ppb	Gold Rating	Notes
A 58	52B/11	3	62.2	3	16	on #11 (Arami L.) down-ice of Sapawe L.
ARE 7	52B/12	1	106.3	8	21	on #11 west of Atikokan
A 81	52B/13	4	76.1	3	28	Finlayson L. (Fin-Lan Copper)
A 113	52B/13	3	62.0	22	25	west shore Marmion L. (80 degree)
A 101	52B/14	2	148.1	6	41	Lower Seine Bay on Marmion L.
A 103	52B/14	5	79.8	7	22	Lower Seine Bay on Marmion L.
A 104	52B/14	0	63.3	3	13	Lower Seine Bay on Marmion L.
A 144	52B/14	0	125.7	5	25	Reserve Island area
A 147	52B/14	0	65.7	19	14	Reserve Island area
A 199	52B/14	10	21.4	3	13	Magnetic L. area
A 245	52G/03	2	44.0	3	29	east Red Paint L. area
A 259	52G/03	2	36.9	3	25	east Red Paint L. area
	no. of samples	246	246	246	246	
	minimum	0	0.0	0	0	
	maximum	13	148.1	84	41	
	mean	1	9.7	5	3	
	standard dev.	1	18.4	8	5	
	anomalous threshold (mean + 2 std.dev.)	4	46.6	20	13	

Sample ARE 7 was also collected on Highway 11 eight km west of the Atikokan turn-off (Fig. 14). No known gold occurrences are in the area but the Quetico Fault is 4 km up-ice. Only one gold grain was observed but it is in the 0.4 - 0.5 mm range. The HMC assayed 3100 ppb Au.

Samples A 81 and A 113 were taken north of Atikokan on NE trending splays or breaks on Finlayson and Marmion Lakes respectively (Fig. 15). Both locations are in the vicinity of or directly down-ice of known gold showings. Sample A 81 has a rating of 28 with 3 moderately large gold grains and an anomalous gold assay in the concentrate. It is located in the area of the Fin-lan copper showing and 3 km down-ice of the Golden Twin gold prospect. Sample A 113 is a short distance to the southeast on the west shore of Marmion Lake. Its rating of 25 is due to a high gold value in the HMC and 2 large angular gold grains. The character sample is slightly anomalous in gold as well. The sample site is 1 km down-ice of the "80 degree" occurrence. As with the remainder of the Atikokan anomalies no follow-up has been undertaken.

Samples A 101, A 103 and A 104 were taken by boat in the eastern portion of Marmion Lake in the NW corner of McCaul Twp. All three samples have anomalous gold in their HMC, especially A 101 with 148.1 micrograms, the highest value of the Atikokan area. The gold counts tend to be low but somewhat coarse. Sample A 104 had no observed gold. The only known gold occurrence which could provide a source for these tills are 10 kms up-ice (Fig. 16), however a major splay off the Quetico structure passes through the area providing a focus for further exploration.

Samples A 144 and A 147 were collected in the Reserve Island area of the Seine River in the SW corner of Ramsay Wright Twp. (Fig. 16). Neither sample had observed grain counts but they have good to excellent gold values in the HMC. Sample A 147 also has elevated gold in its character sample. Samples A144 is 5 km down-ice of the Pittiqrew occurrence. A 147 is down-ice of the Sunbeam and A1308 showings. The Reserve Island gold showing is also in the near vicinity.

Sample A 199 was collected on the north shore of Magnetic Lake in the west central area of Trottier Twp. (Fig. 16). The main Quetico Fault passes through the lake. The White Lily gold showing is 1.5 km north of the sample site. Seven gold grains were seen in the 0.1 to 0.3 mm range, four of which were delicate to angular in shape indicating a near source. The coarse fraction was 30% quartz vein material. The HMC assay was elevated but it is not considered an anomalous value. It's high rating is predominantly due to its grain counts and their size.

Samples A245 and 259 were collected on roads in the Upsala greenstone belt in NTS area 52G/03 (Figures 12 and 18). A 245 is located west of Richardson Lake along the E-W trending granite/greenstone contact.

Sample A259 is situated between Gargoyle and Hematite Lakes. The location of mineral occurrences in the area has not been researched. Both samples have only 2 grain counts but in each case one grain is very large. Sample A245 has a 0.6 x 0.3 mm gold grain with an anomalous assay of 1370 ppb gold. A 259 has a 0.5 x 0.3 mm grain and 1000 ppb Au in its HMC. There are no anomalous values in other elements.

No follow-up of the Atikokan anomalies has been undertaken.

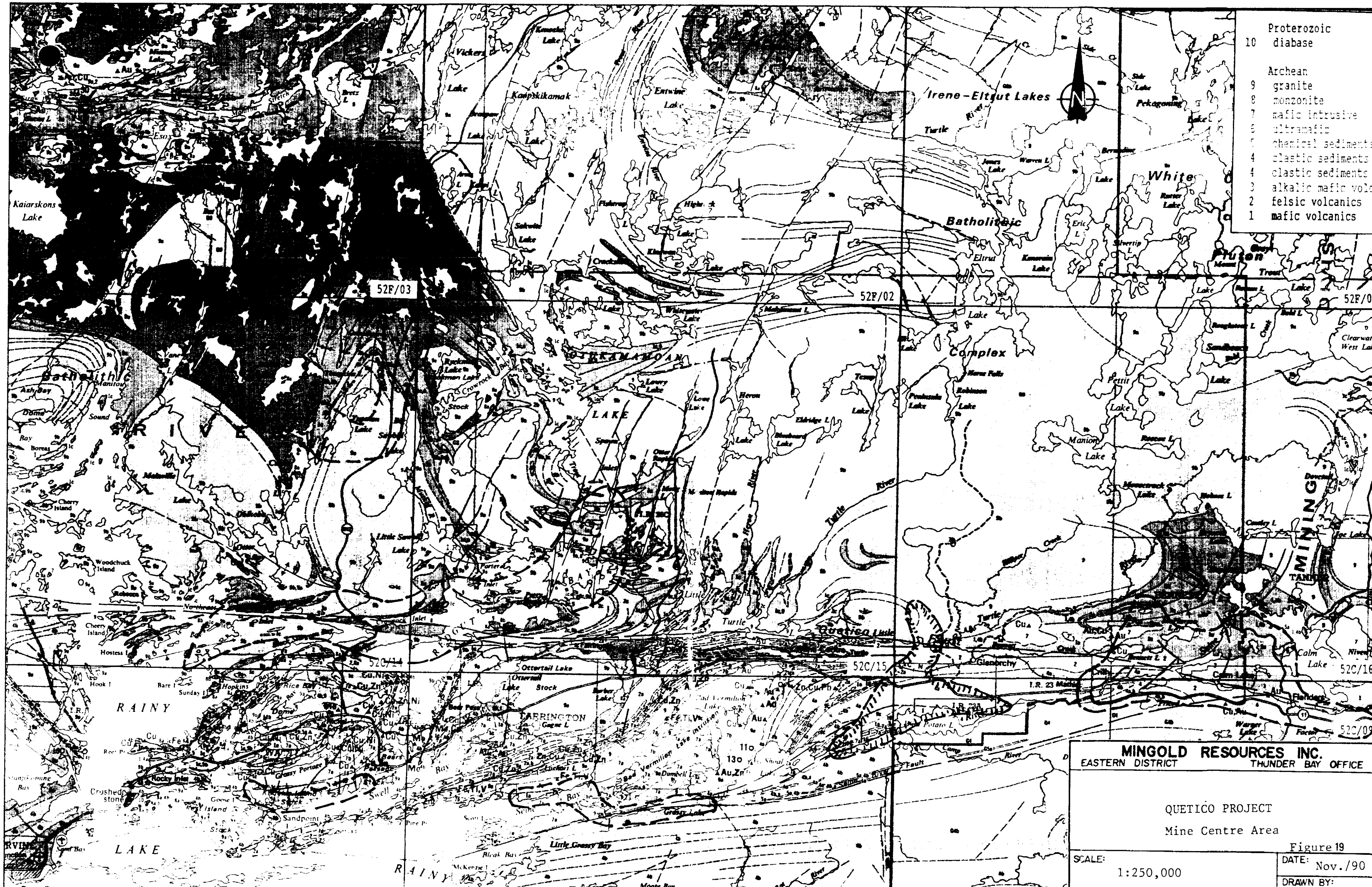
VII MINE CENTRE

(a) Geology and Mineral Occurrences (Fig.19)

The rocks of the Mine Centre - Fort Frances area occur within the Archean Superior Province in a fault-bounded wedge between two subprovinces, the Wabigoon granite-greenstone terrain to the north and the Quetico metasedimentary terrain to the south (Poulsen, 1984). The Quetico and Seine River - Rainy Lake Faults define this dextral wrench zone which displays distinctive stratigraphic, structural and metamorphic relationships.

The structure of the Wabigoon granite-greenstone terrain is dominated by domal features of variable size. The largest of these, such as the Rainy Lake Complex and Irene-Eltrut Lakes Complex, are greater than 50 km in diameter and are composed of smaller gneissic domes, central batholiths and marginal crescentic granitoid intrusions. Supracrustal metavolcanic and metasedimentary rocks now occupy the margins of the gneissic domes. Metavolcanic lithologies dominate and comprise metabasalt flows with local accumulations of flows, and pyroclastic and epiclastic rocks of intermediate to felsic composition. Metasedimentary rocks such as conglomerate, wacke, mudstone and iron formations form units within the volcanic sequences.

The structure of the Quetico Subprovince contrasts with the of the Wabigoon (Poulsen, 1984). It is characterized by a consistent sequence of metasedimentary units sub-parallel with the Seine River-Rainy Lake Fault. Near the northern boundary, low grade metasedimentary rocks of the Quetico subprovince dip steeply. Southward, the metasedimentary rocks become migmatitic and primary structures and cleavage are obscured. Major antiforms are commonly cored by massive granitoid bodies of irregular shapes. The metasedimentary biotite schists are metamorphosed to assemblages indicative of a southward increase in metamorphic grade.


Proterozoic
10 diabase
Archean
9 granite
8 monzonite
7 mafic intrusive
6 ultramafic
5 chemical sediments
4 clastic sediments
4 clastic sediments
3 alkalic mafic volc
2 felsic volcanics
1 mafic volcanics
Irene-Eltrut Lakes
Batholithic
Complex
Quetico
52F/03
52F/02
52F/01
52C/14
52C/15
52C/16
RAINY
LAKE
Fort Frances
MINGOLD RESOURCES INC.
EASTERN DISTRICT
THUNDER BAY OFFICE
QUETICO PROJECT
Mine Centre Area
Figure 19
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The Mine Centre district was the site of intensive prospecting for gold in the 1890's and again in the 1940's. Total production from the area is at 21,000 ounces of gold with the bulk from the Golden Star, Foley, Olive and Cone Mines. The deposits are concentrated along the subprovince boundaries and are related spatially to the major faults and their splays.

Quartz vein mineralization is of two types. Molybdenite, with pyrite and local chalcopyrite, occurs in quartz stockworks and extensional veins within granodioritic intrusions near contacts with metasedimentary country rocks. In contrast gold, along with carbonates and base metal sulphides, occurs in lenticular quartz veins associated with shear zones and regional cleavage. Gold-bearing veins occur in a variety of rock types and are restricted to zones of greenschist facies metamorphism, (Poulsen, 1984).

Low grade iron-formations are also common in the region and tend to be concentrated near the subprovince boundaries. Several significant prospects containing base metals also have been discovered. Two broad types are present: zinc-copper mineralization occurs at specific horizons within metavolcanic successions and copper-nickel mineralization is associated with mafic and ultramafic rocks, particularly intrusions. Although some of these prospects have been extensively developed, very limited base metal production has been reported from this region.

Clearly there is a strong spatial correlation between known mineralization and the subprovince boundary (Poulsen, 1984). Laminated gold-bearing quartz veins occur in ductile shear zones and as dilation of the regionally developed cleavage. These structures are related kinematically to large transcurrent faults in the region. Poulsen (1983) considered the gold mineralization to be entirely epigenetic and related to seismic pumping of fluids during faulting. A similar spatial relationship between gold and large fault zones exists throughout the study area and is the basis of the reconnaissance program.

The Mine Centre sampling also included tills from the Manitou Stretch 40 km north of the Quetico Fault. Like the Quetico structure the Manitou Stretch is an east trending deformation zone in the Wabigoon subprovince. It lies within the Manitou Lakes greenstone belt near its the junction with the Pipestone-Cameron Lake greenstone belt.

All bedrock in the area is Archean consisting primarily of steeply dipping folded strata of low-grade metamorphosed and deformed mafic volcanic rocks and lesser intermediate and felsic volcanic rocks and associated intrusives subvolcanic stocks sheets, and dikes. The metavolcanics are intruded by and bounded by large granitic masses of intermediate to felsic composition, and by minor late lamprophyre and gabbro dikes.

The area is approximately bisected by an east-trending zone of cataclastic deformation, the Manitou Stretch-Pipestone Lake Fault, which is of regional dimensions and has been traced from Lake of the Woods in the west to Upper Manitou Lake in the east.

Gold was mined at the old Straw Lake Beach mine in the late 1930's (33,7000 ounces) and several gold occurrences are located along the main deformation zone.

(b) Fieldwork (Figs. 20 to 27)

Till sampling in the Mine Centre - Manitou Stretch was carried out by road and lake access. Approximately 60% of the tills were taken along Highway 11 as well as recreational access and forestry roads. Boat work was done on Rainy Lake and the Manitou Stretch.

(c) Results (Table 5)

A total of 214 reconnaissance bulk tills were collected in the Mine Centre area with an average weight of 23.5 kilograms. The coarse fraction averaged 6.9 kgms. A general outline of the area is shown on Figure 19. Pebble counts of the coarse fractions indicate the overall drift lithologies are approximately equal proportions of felsic intrusives, metavolcanics and metasediments.

Gold counts in the 214 samples total 582 grains for an average of 2.7 grains per sample. This is comparable to the Shebandowan area average grain count (2.5) and four times the Atikokan average (0.6). Almost 98% of the grains were 0.03 mm or less. Three samples had single grains larger than .5 mm in diameter. Two samples, both from the same site on Esox Lake, had the area high grain counts of 42 and 43 gold particles.

The percentage of magnetite, pyrite and garnet in the HMC varied considerably with maximum of 70, 25 and 90% respectively. Seven samples noted chalcopyrite grains. UV lamping and spectrometer readings were at background levels with minor scheelite and zircon observed.

Gold assays in the concentrates reached a maximum of 18,200 ppb Au. The mean gold value was 730 ppb gold which is almost three times the means for the Shebandowan and Atikokan areas. The grain count differences for Mine Centre and Atikokan would suggest that the assay differences is natural for the two areas. The big discrepancy between Mine Centre and Shebandowan is not expected and most likely reflects modification in the method of producing the HMC in the two areas. Normalized gold values for a 20 kgm standard sample size averaged 28.3 micrograms of gold, again a significant increase over the Shebandowan and Atikokan areas.

TABLE 6 MINE CENTRE ANOMALIES

Sample No.	NTS Location	Normalized Values Gold Grains	Gold Micrograms	Character Sample Au ppb	Gold Rating	Notes
M 79	52C/10	3	128.3	3	52	west end of Grassy L.
MRE26	52C/10	7	219.5	6	80	west end of Grassy L.
MRL23	52C/14	3	165.7	3	49	Northeast Bay area, Rainy Lake
M 74	52C/16	0	292.3	-	58	Bennett - MacPherson L. area
M 102	52F/02	3	339.1	12	69	on Highway 502, Korpi L. area
MCN22	52F/03	53	585.4	50	136	Cedar Narrows, Esox L. area
MCN63	52F/03	9	239.4	-	51	Cedar Narrows, Esox L. area
GB124	52F/03	52	539.1	-	124	Cedar Narrows, Esox L area
MCN52	52F/03	7	354.8	3	116	Manitou Stretch

	Gold Grains	Gold Micrograms	Au ppb	Gold Rating
no. of samples	214	214	202	214
minimum	0	0.0	0	0
maximum	53	585.4	432	136
mean	3	28.3	6	9
standard dev.	6	71.5	30	18
anomalous threshold (mean + 2 std.dev.)	15	171.4	67	44

As in the two prior areas there is no correlation of the better gold values in either the HMC or in the character sample with the other assayed elements.

In the character sample data set only two samples had gold assays above 20 ppb. Gold ratings in the Mine Centre area have a mean value of 9 and an anomalous threshold of 44. Nine samples exceeded the threshold and are considered anomalous.

In NTS area 52C/10 (Fig. 21) two samples collected by boat in the Grassy Lake area are quite significant in gold values. Sample M79 on the south shore of the lake had only three gold grains but one was >0.5mm in diameter. The HMC assay 2610 ppb Au and its normalized contained gold was 128.3 micrograms. To the west only 0.5 km sample MRE 26 had 4 grains (normalized to 7) including a 0.6 mm x 0.4 mm particle, the largest obtained in the Mine Centre area. The smaller grains were generally angular. The HMC assayed 3600 ppb Au and normalizes to 219.5 micrograms of gold. There are no known gold occurrences in the vicinity or close up-ice although the main Shoal Lake showings (eg. Cone, Foley, Mackenzie Gray) are 10 km to the ENE. The Seine River Indian Reserve 23B lies on the north shore of Grassy Lake directly up-ice. The Seine River Fault passes through Grassy Lake.

Sample MRL 23 was taken on Baseline Bay in the southeast corner of NTS area 52C/14. The sample was collected by boat but the location is only 1 km east of Highway 502. Three large gold grains, in the 0.2 - 0.5 mm range, are accompanied by anomalous gold in the HMC assay. The HMC contains 165.7 micrograms of gold. There are no known gold occurrences in the area but the main Quetico Fault passes through Crowrock Inlet 2 km to the north.

In NTS 52C/16 (Fig. 25) sample M74 is located north of the Bennett Lake - McPherson Lake area. There are numerous gold occurrences (eg. Independence, Cedar Lake) reported down-ice of the location but no showings to the northeast. No gold grains were observed in the panning although chalcopyrite was seen. The nearby showings have copper and gold values. The sample assayed 12,500 ppb gold for a normalized value of 292.3 micrograms of gold. The HMC also had elevated tungsten at 150 ppm W.

Along Highway 502 in NTS area 52F/2 (Fig. 26) sample M 102 was collected east of Arms Lake. Only one gold grain was panned (normalized to 3) but the concentrate assay normalized to 339 micrograms giving the sample a rating of 69. Follow-up sampling was carried out including a duplicate from the same pit. This sample, GB 131, had a rating of 27 which is below the anomaly threshold but its HMC had 3,090 ppb gold. Sample GB 132 only 0.5 km to the north had a rating of 37 and 5,200 ppb in its concentrate. Regional mapping indicates that a northwest trending granite/greenstone contact passes between the highway and Arms Lake.

In the Manitou Stretch area (NTS 52F/03, Fig. 27) two locations exceed the anomalous threshold. At Cedar Narrows on the south shore of Esox Lake sample MCN 22 was taken along a logging road. A total of 43 gold grains (37 @ <0.05 mm) were observed with the few coarse particles being quite angular. This indicates a nearby source. The concentrate assayed 12,500 ppb Au and the character sample ran 50 ppb Au. Two follow-up samples were taken from the same shovel pit and nine other tills were taken within 1 km up-ice. The locations are all shown on Fig. 27, either on the main map or the enlarged portion. Samples GB 124 and MCN 63 from the same pit are also anomalous confirming the original result but the area detail is negative. This would suggest a very local bedrock source or else a gold concentration in the drift due to glacial processes.

Also on Fig. 27 sample MCN 52 had a gold rating of 116. This sample was taken by boat along the Manitou Stretch. It had 7 gold grains including one at 0.6 mm x 0.3 mm. The HMC assayed 11,500 ppb Au. Numerous gold showings have been discovered along this deformation zone. The old Straw Lake mine is 11 km to the west along the same structure. There are no known showings that can be directly related to MCN 52 although an antimony occurrence is nearby and the Gates Lake gold prospects are 4 km to the northeast.

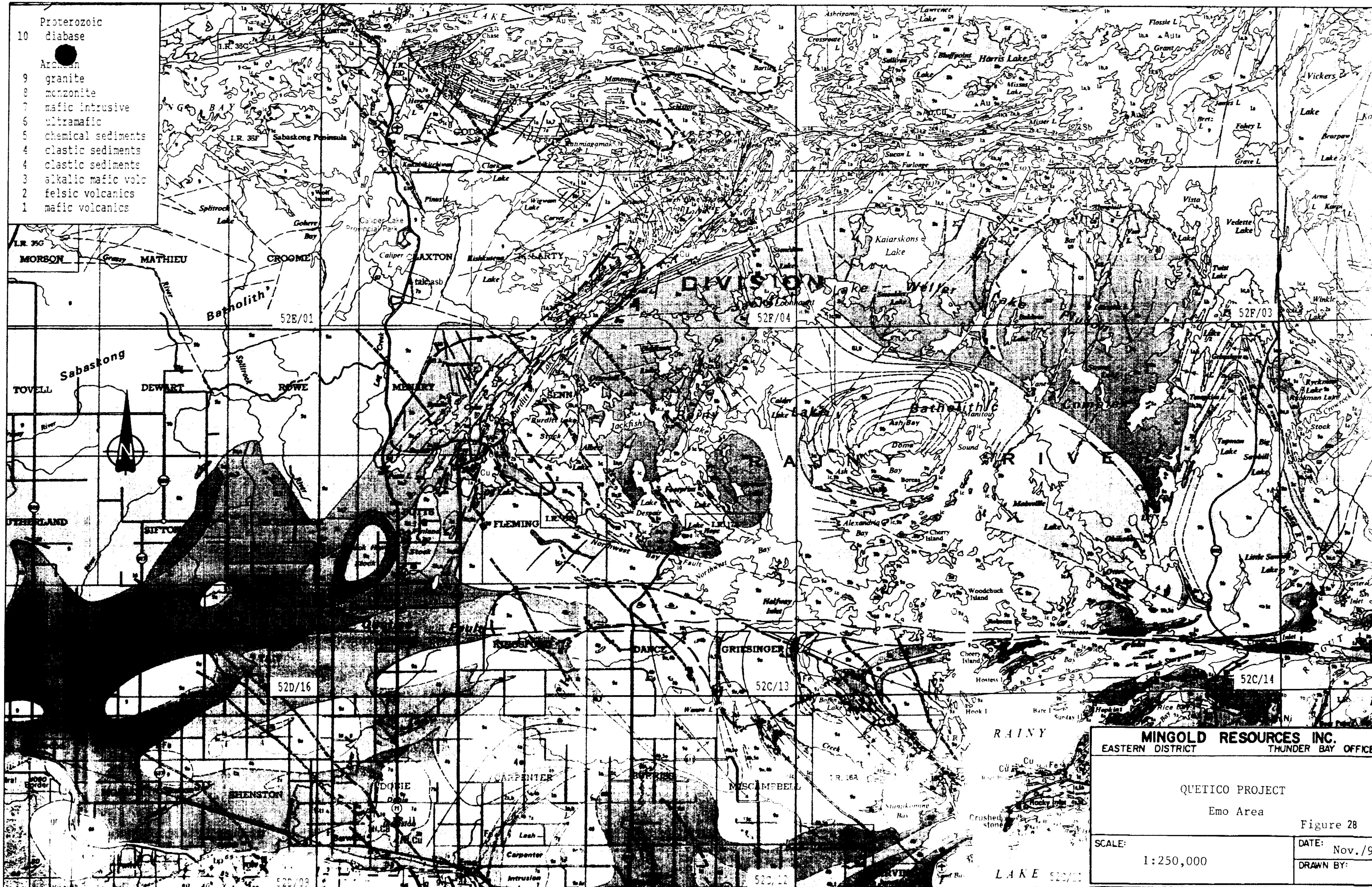
VIII EMO

(a) Geology and Mineral Occurrences (Fig. 28)

The Emo sampling area extends from Rainy Lake west to Emo and north to include the Burditt - Pipestone Lake system.

The southern portion of the district is the westward extension of the Quetico Fault system described for the Mine Centre area. The Quetico structure crosses Rainy Lake passing just south of Northwest Bay and continues into the Rainy River farming district. Due to extensive glacial cover the fault is masked on surface but geophysical evidence indicates the system continues SSW passing into Minnesota near the town of Rainy River. Major subsidiary faults splay along northwest Bay and to south near Stratton.

This area is underlain by Archean supracrustal, ultramafic, intrusive and granitoid rocks (Johns, 1987). The supracrustal rocks can be divided into two stratigraphic units, a lower mafic unit consisting of massive and pillowed flows overlain by an upper diverse unit comprised of interbedded mafic and intermediate debris flows and pyroclastics. The intermediate to felsic granitoid intrusive rocks can be divided into pre-to syntectonic stocks and batholiths and postectonic stocks.


Proterozoic
10 diabase
Archean
9 granite
8 monzonite
7 mafic intrusive
6 ultramafic
5 chemical sediments
4 clastic sediments
4 clastic sediments
3 alkalic mafic volc
2 felsic volcanics
1 mafic volcanics
52E/01
52F/04
52F/03
52D/16
52C/13
52C/14
DIVISION
RAINY RIVER
Batholith
Sabaskong
MINGOLD RESOURCES INC.
EASTERN DISTRICT
THUNDER BAY OFFICE
QUETICO PROJECT
Emo Area
Figure 28
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Further north in the Burditt - Pipestone area a major NE trending deformation zone coincides with the chain of lakes. The zone is composed of an Archean metavolcanic assemblage with mixed sequences of massive, porphyritic and pyroclastic mafic volcanics. Felsic to intermediate plutonic rocks intrude the supracrustal units (Blackburn, 1976). Three small felsic stocks within the belt are considered synchronous with the deformation.

At the north end of the till sampling area, south of Kagagi Lake, mafic to intermediate metavolcanics with synchronous ultramafic units form the southern portion of a major northwest trending deformation zone. This structure is called the Pipestone - Cameron Fault and extends from the Manitou Stretch in the east to Lake of the Woods to the west.

Mineral exploration in the northern portion dates back to the early part of the century. Numerous gold showings are related to the Pipestone-Cameron fault, of which the most well known is the Cameron Lake deposit. These occurrences occur in zones of shearing and carbonate alteration with a close spatial relationship to the deformation. In the Burditt Lake area mineralization found to date consists of chalcopyrite and sphalerite within the mixed felsic to mafic metavolcanics. Further south, in the Emo-Barwick area, copper - nickel sulphides are associated with border phases of an ultramafic intrusion. In the farming district to the west exploration is hindered by the extensive glacial cover but recent till work by the OGS (Bajc, 1988) has indicated areas with significant number of gold grains related to a southwest - directed till package.

(b) Fieldwork Figs. 29 to 31)

Almost all of the till sampling in the Emo area was carried out by truck access. Minor sampling was done by boat (on Burditt Lake) and by all terrain vehicle along power lines and on older roads.

In the north and east areas of the sampling the drift cover is thin and typical of the Superior Province. However to the south and west the drift thickens considerably and the lower southwest directed till is overlain by a clay-rich till with a source to the west. This upper till basically prohibited sampling west of Tait Township.

(c) Results (Table 7)

A total of 164 reconnaissance bulk tills were collected in the Emo area with an average weight of 26.8 kilograms. The coarse fraction averaged 8.5 kgms. A general outline of the sampled area is shown on Figure 28. Pebble counts of the coarse fraction indicate the drift lithologies are approximately 50% metavolcanic, 45% felsic intrusives and 5% metasediments.

TABLE 6 EMO ANOMALIES

Sample No.	NTS Location	Normalized Values Gold Grains	Gold Micrograms	Character Sample Au ppb	Gold Rating	Notes
F 94	52C/13	5	67.9	3	28	Panorama L. area
FRE 8	52C/13	1	187.6	3	39	Panorama L. area
FDER 9	52F/04	8	84.6	71	31	Pipestone Rd. area-down-ice of Cameron L. fault
FTRY 8	52F/04	5	159.8	3	57	Pipestone Rd. area-down-ice of Cameron L. fault
FTRY10	52F/04	7	83.5	11	34	Pipestone Rd. area-down-ice of Cameron L. fault
FPIP28	52F/04	2	188.3	3	65	Pipestone Rd. area-down-ice of Cameron L. fault
FPIP40	52F/04	10	187.6	3	53	Pipestone-Slender Lakes area

	Gold Grains	Gold Micrograms	Au ppb	Gold Rating
no. of samples	164	164	158	164
minimum	0	0.0	0	0
maximum	33	188.3	219	65
mean	4	22.6	7	9
standard dev.	4	31.8	20	10
anomalous threshold (mean + 2 std.dev.)	12	86.2	47	28

Gold counts in the 164 samples total 524 grains for an average of 3.2 grains per sample, the highest of the four districts. Only 7% of the grains are greater than 0.3 mm in diameter. Two samples have single gold grains larger than 0.5 mms. The highest gold grain count in the Emo area was 14 grains from F107 taken at Yoker Lake in the southwest corner of Menary Twp. However this sample had only background gold levels in the HMC and it is assumed that particles were mid-identified as gold. Two follow-up samples in the same vicinity had background levels.

The percentage of magnetite, pyrite and garnet in the HMC varies with maximums of 85, 20 and 60% respectively. Copper, mainly chalcopyrite but perhaps some native copper was seen in 8 samples but there is no relationship with gold assays or grain counts. UV lamping and spectrometer readings were at background levels.

Gold assays in the HMC reached a maximum of 8,680 ppb Au. The mean gold values was 757 ppb gold which is very similar to Mine Centre values and significantly higher than Atikokan and Shebandowan. Normalized gold values for a 20 kgm standard sample size averages 226 mgms of gold.

There is no correlation between HMC gold assays and assays of other elements in the concentrate. Within the character samples only one of six anomalous gold is also a HMC anomaly. The gold ratings in the Emo area have a mean value of 9 and an anomalous threshold of 28. Seven samples exceeded the threshold and are considered anomalous.

Two of the anomalies are located near Panorama Lake in NTS area 52C/13 (Fig. 30). Sample F94 had 4 grains (normalized to 5) of which 3 are in the 0.3 - 0.4 mm range and are quite angular. Its HMC gold assay although certainly elevated was not considered anomalous. Sample FRE 8 is 3 km to the south of F94. It had only one gold grain but its concentrate assay was 8,680 ppb Au, the best of the Emo area. Both of these samples was situated on the west flank of the NE trending greenstone package that parallels the Burditt - Pipestone chain of lakes. Two showings, one gold and one zinc are known in the area but neither could be the source of these anomalous samples. Some follow-up had been undertaken but additional sampling is required.

Four gold anomalies are situated on logging access roads in the Katimiqamak Lake area of NTS 52F/04 (Fig. 31). Sample FDER 9, located north of Derby Lake, had 9 grain counts (normalized to 8). Its HMC assay normalizes to 84.6 micrograms of gold. The character sample is also anomalous in gold with 71 ppb Au. To the north and west samples FTRY 8, 10 and FPIP 40 are located on a NE trending road paralleling the ice direction. Grain counts vary from 2 to 8 colours and include the two large grains mentioned earlier. Sample FTRY 8 had one gold particle 0.8 x 0.3 mm. Its contained gold normalizes to 159.8 micrograms. Sample FPIP 28 had a 0.7 x 0.3 mm grain and 188.8 micrograms of gold. The Katimogamak area is dominated by a sequence of east trending mafic metavolcanic units intercalated with mafic intrusives. A number of northeast breaks crosscut the volcanics. The locations of the mineral occurrences in the vicinity has not been researched but Kakagi Lake to the north has a number of gold prospects related to the NE trending Cameron Lake Deformation Zone (Fig. 28).

In the Manomin River area between Pipestone Lake and Burditt Lake sample FPIP 40 was collected. Six gold grains (normalized to 10) and 187.6 micrograms of gold give the sample a rating of 53. No gold showings are known in the general area but a volcanic/felsic intrusive contact is nearby. Further sampling is required.

IX CONCLUSIONS

The purpose of the bulk till sampling along the Quetico Fault structure was to help locate and define bedrock gold occurrences in the area. Although in no cases have anomalous grains counts and/or assay values in till been traced back to a definite bedrock source 37 first order anomalies and many more lesser anomalies have been outlined. Some of the anomalous samples have mineral occurrences in the vicinity which may very well be the source of the gold values in the till but this has not been confirmed. Nevertheless from the results to date it can be concluded that this method of using heavy mineral concentrates to search for gold is a viable exploration technique. Obviously follow-up is required on most of the anomalies discussed in this report.

Although time has not permitted an in-depth analysis of the results some conclusions can be drawn from the concentrating and assay data.

(1) There is a general correlation of anomalous gold grain counts and anomalous gold with HMC but it is also obvious that there are instances of missed gold grains and grains mis-identified as gold. For instance, in three of the four areas the samples with the highest grain counts did not assay as gold anomalies. In the future more care should be taken to train and maintain a higher level of competency in the panning.

(2) As an alternative to (1) if it is found that the panning data is too inconsistent and/or time consuming to undertake correctly then the grain counting should not be carried out, at least on the reconnaissance scale, and anomalies would be determined solely by the HMC assays.

(3) There is no apparent correlation between anomalous gold values in the HMC and any of the other elements assayed for in the 34 element INAA package. One reason for this is that a bedrock gold source may have base metal sulphides associated with it but our samples are from shovel dug near-surface pits where most if not all the sulphides would be oxidized and therefore not found in the HMC. If follow-up work were carried out with RC or sonic drilling, even deep backhoe trenching, one may very well find associated or indicator sulphides with anomalous gold.

(4) The "character sample" data set provides very little useful information on a reconnaissance scale. Although some elevated gold values are obtained, the results are sporadic and are of marginal use in determining follow-up work. The character samples may contribute when one has a nearby source, in the same way as regular soil or humus geochemistry will define targets, but on a reconnaissance scale it is of little value.

X CERTIFICATE

I, Gerald E. Bidwell of the City of Thunder Bay in the Province of Ontario hereby certify:

1. That I am a geologist employed by Mingold Resources Inc.

2. That I am a graduate of the University of Saskatchewan with a Bachelor of Arts and Science (Geology) degree granted in 1967. I have been practising my profession for twenty-two years.

3. I am a fellow of the Geological Association of Canada.

Dated at Thunder Bay, Ontario the 25th day of November 1990.

Gerald E. Bidwell

XI REFERENCES

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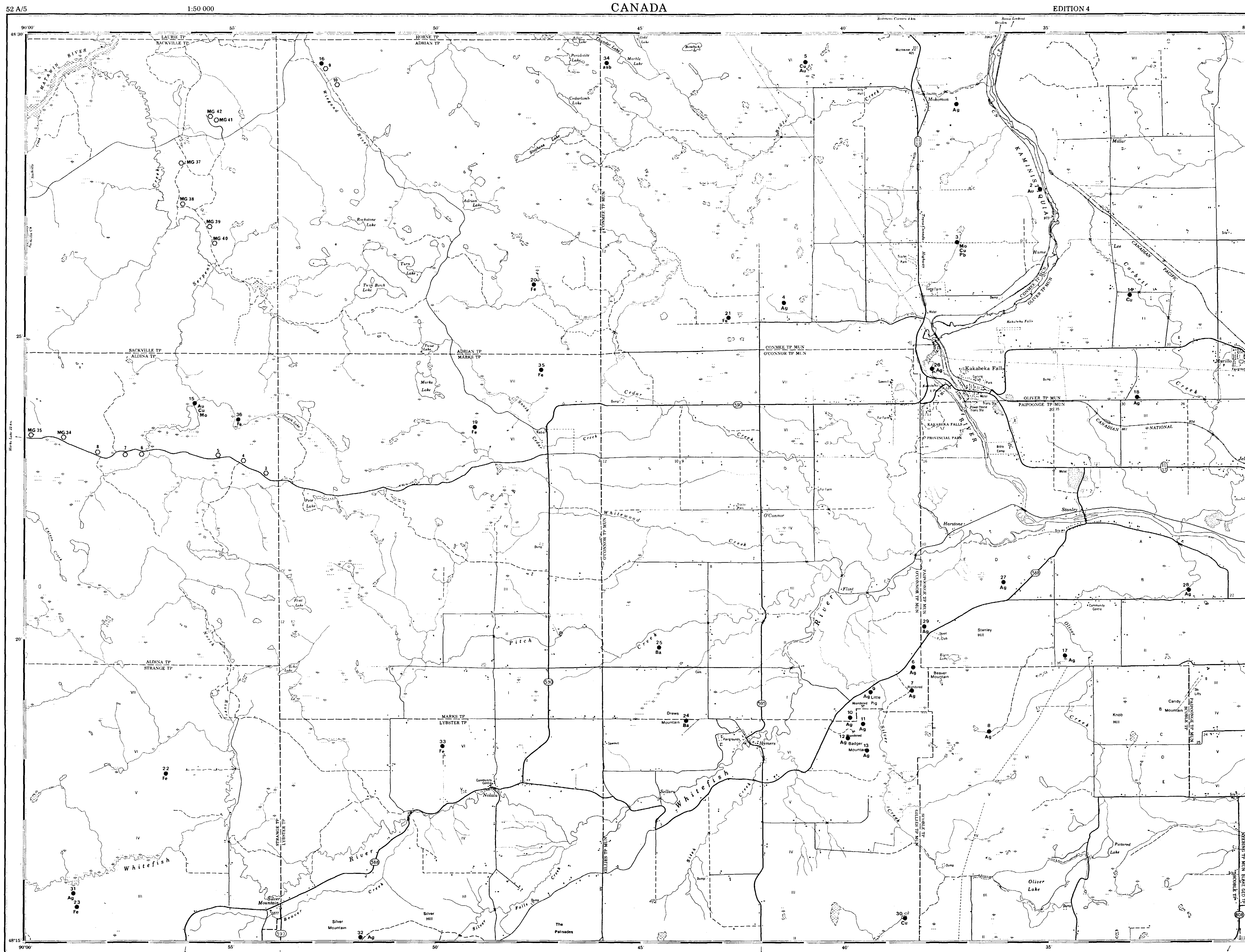
SAMPLE No.	NORMALIZED VALUES normalized to 20 kg. of -6 mm material: GOLD grains	GOLD micrograms	CHARACTER SAMPLE Au ppb	GOLD RATING
# 3	5	[illegible]	3	4
# 4	1	4	3	2
# 5	0	[illegible]	[illegible]	[illegible]
# 6	6	6	3	5
# 7	2	2	2	1
# 8	5	3	6	6
# 9	0	0	3	0
# 10	2	2	[illegible]	[illegible]
MG 34	4	2	3	3
MG 35	6	4	3	3
MG 37	1	2	7	2
MG 38	0	16	3	3
MG 39	6	18	3	7
MG 40	3	10	3	6
MG 41	2	4	5	2
MG 42	1	23	11	6



KAKABEKA FALLS
THUNDER BAY DISTRICT
ONTARIO
Scale 1:50 000 Échelle

GEOLOGY

LEGEND

PROTEROZOIC

- 15 Mafic-Ultramafic Rocks
- 14 Late Sediments (Sibley Gp.)
- 13 Early Sediments (Animikie Gp.)

ARCHEAN

- 12 Granodiorite - Granite (a) early (b) late
- 11 Diorite - Granodiorite (a) early (b) late
- 10 Diorite - Nepheline Syenite
- 9 Felsic Hypabyssal Rocks (QFP)
- 8 Mafic - Ultramafic Intrusive Rocks
- 7 Clastic Sediments (Timiskaming type) includes alkalic - calcalkalic volcanics
- 6 Migmatites
- 5 Metasediments (a) coarse clastic (b) fine clastic (c) chert - iron formation
- 4 Intermediate - Felsic Metavolcanics (a) rhyolite - rhyodacite (b) dacite - andesite (c) fragmental
- 3 Mafic - Intermediate Metavolcanics (a) pillowed (b) fragmental
- 2 Ultramafic Metavolcanics
- 1 Clastic Metasediments (early platform sequences)

SYMBOLS

outcrop (sub-outcrop)
contact (assumed)
fault
lineament
bedding (dip)
pillow (top facing)
foliation
shearing
lineation
syncline
anticline
glacial striae
mineral occurrence
pit, trench
shaft
claim post

GEOPHYSICS

Magnetic Anomaly
airborne
ground
magnetic low

Electromagnetic Anomaly
airborne (single line)
ground

VLF-EM Anomaly
airborne
ground

GEOCHEMISTRY

till
soil
rock

MINERAL OCCURRENCES

(1) Mokomon (Map P.2991)
(2) Hume (Map P.2991)
(3) Lundmark (Map P.2991)
(4) (Map P.2991)
(5) Johnson (EMR, Gold, p.67)
(6) Beaver Jr.
(7) Beaver
(8) Rabbit Mtn.
(9) West Beaver
(10) Keystone
(11) Silver Ck.
(12) Porcupine
(13) Bauger
(14) Oliver Twp.Float #1 (OFR 5104)
(15) Douglas (files)
(16) Stewart (files)
(17) Big Bear
(18) Oliver
(19) Marks Lake
(20) New Fortune
(21) Hanna
(22) North River
(23) Divide Ridge
(24) Hymers
(25) Pitch Ck.
(26) Kakabeka Falls
(27) Victoria
(28) Copeland
(29) Elgin
(30) Haywood
(31) Tyee
(32) Majojeca
(33) Nolalu
(34) Fabis, H.
(35) Marks Ck.
(36) Aldina

SOURCES OF DATA

(1) OGS Map P. 2991 (Conmee)
(2) GSC OF 1479
(3) OGS 80EGTS 71
(4) GSC Airmag 2096G

MAGNETIC DECLINATION :

DATE -
REVISED -

GEOLOGY INDEX

CLAIM MAP INDEX

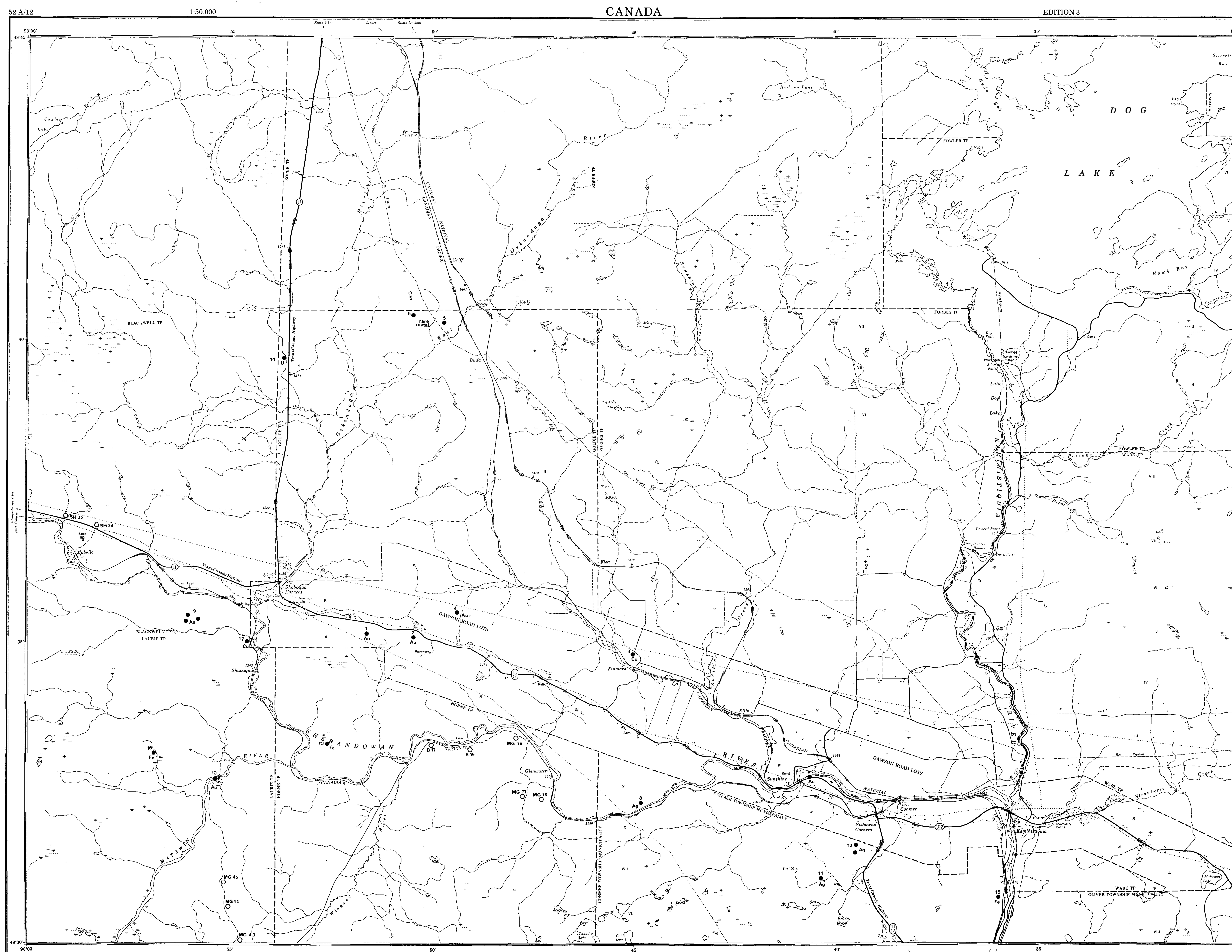
KAKABEKA FALLS
52 A/5
EDITION 4

MINGOLD RESOURCES INC.

PLATE NO. 3

200

SAMPLE No.	NORMALIZED VALUES normalized to 20 kg. of -6 mm material: GOLD grains	GOLD micrograms	CHARACTER SAMPLE: Au ppb	GOLD RATING 5
MG 43	4	5	7	3
MG 44	3	3	3	1
MG 45	11	3	3	1
MG 76	9	26	23	5
MG 77	7	24	8	14
MG 78	2	2	3	6
B 16	1	1	3	2
B 17	2	0	5	2
SH 34	0	0	3	0
SH 35	2	43	3	11



GEOLOGY

LEGEND

PROTEROZOIC

- 15 Mafic - Ultramafic Rocks
- 14 Late Sediments (Sibley Gp.)
- 13 Early Sediments (Animikie Gp.)

ARCHEAN

- 12 Granodiorite - Granite
  - (a) early
  - (b) late
- 11 Diorite - Granodiorite
  - (a) early
  - (b) late
- 10 Diorite - Nepheline Syenite
- 9 Felsic Hypabyssal Rocks (QFP)
- 8 Mafic - Ultramafic Intrusive Rocks
- 7 Clastic Sediments (Timiskaming type) includes alkalic - calcalkalic volcanics
- 6 Migmatites
- 5 Metasediments
  - (a) coarse clastic
  - (b) fine clastic
  - (c) chert - iron formation
- 4 Intermediate - Felsic Metavolcanics
  - (a) rhyolite - rhyodacite
  - (b) dacite - andesite
  - (c) fragmental
- 3 Mafic - Intermediate Metavolcanics
  - (a) pillowed
  - (b) fragmental
- 2 Ultramafic Metavolcanics
- 1 Clastic Metasediments (early platform sequences)

SYMBOLS

- outcrop (sub-outcrop)
- contact (assumed)
- fault
- lineament
- bedding (dip)
- pillow (top facing)
- foliation
- shearing
- lineation
- syncline
- anticline
- glacial striae
- mineral occurrence
- pit, trench
- shaft
- claim post

GEOPHYSICS

Magnetic Anomaly
- airborne
- ground
- magnetic low

Electromagnetic Anomaly
- airborne (single line)
- ground

VLF - EM Anomaly
- airborne
- ground

GEOCHEMISTRY

- till
- soil
- rock

MINERAL OCCURRENCES

(1) Dawson Road Lots (West)
(2) Dawson Road Lots (East)
(3) Finmark
(4) Godzik
(5) Buda
(6) Steep Rock
(7) Sunshine
(8) OGS P. 2990
(9) Kaspar
(10) Kukkee
(11) OGS P.2990
(12) OGS P.2990
(13) Shabaqua Iron
(14) Nelson
(15) Kaministikwa
(16) Matawin River
(17) Shabaqua Copper

SOURCES OF DATA

(1) OGS Map P.3082 (Blackwell)
(2) OGS Map P. 3083 (Laurie)
(3) OGS Map P. 2990 (Conmee & Forbes)
(4) OGS Map P. 2855 (Goldie)
(5) OGS Map P. 2856 (Horne)
(6) OGS NOEGTS 57
(7) OGS MP 94 (Quaternary)
(8) OGS GDIF (52A/12 SW)
(9) GSC OF 1479
(10) GSC Airmag 2097G

MAGNETIC DECLINATION :

DATE -
REVISED -

GEOLOGY INDEX

CLAIM MAP INDEX

SUNSHINE

THUNDER BAY DISTRICT

ONTARIO

Scale 1:50,000 Échelle

SUNSHINE
52 A/12
EDITION 3

MINGOLD RESOURCES INC.

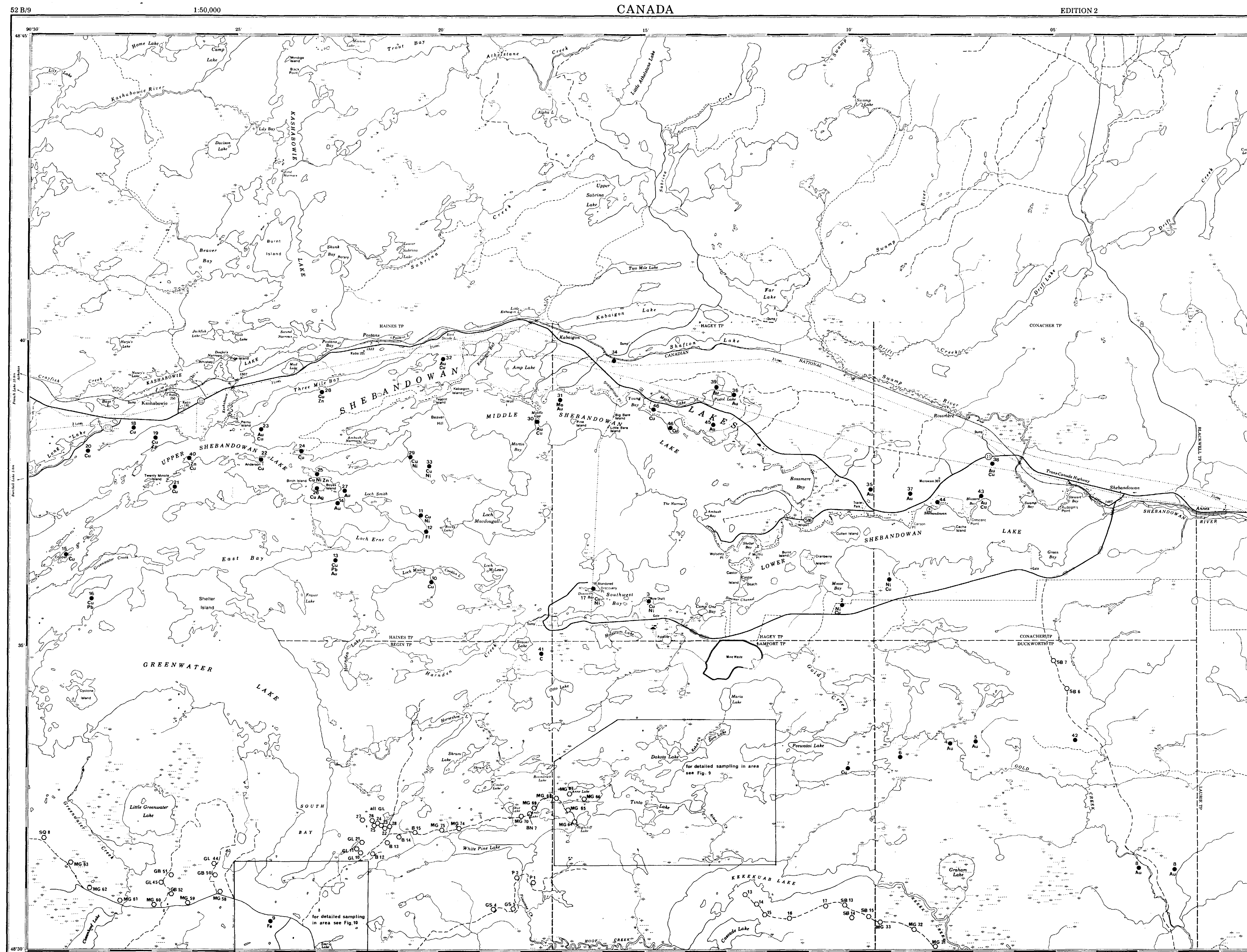
PLATE NO. 4

210

SAMPLE No.	NORMALIZED VALUES normalized to 20 kg. of -6 mm material GOLD grains	GOLD micrograms	CHARACTER SAMPLE Au ppb 5	GOLD RATING
MG 29	3	12	6	5
MG 30	1	4	3	3
MG 36	1	2	3	1
MG 46	0	9	3	2
MG 47	2	4	3	2
MG 48	2	3	7	2
MG 49	2	4	3	2
MG 50	2	7	3	3
MG 51	8	15	10	6
MG 52	0	23	50	6
GS 1	2	4	3	2
GS 2	2	0	3	2
GS 3	1	5	3	2

SAMPLE No.	NORMALIZED VALUES normalized to 20 kg. of -6 mm material GOLD grains	GOLD micrograms	CHARACTER SAMPLE Au ppb 5	GOLD RATING
# 13	0	1	7	0
# 14	1	1	3	1
# 15	0	0	3	0
# 16	1	5	3	2
# 17	2	21	3	6
MG 31	3	3	88	5
MG 32	1	4	3	2
MG 33	1	5	3	2
MG 58	5	39	36	22
MG 59	2	0	11	2
MG 60	4	55	3	14
MG 61	1	2	7	1
MG 62	2	3	3	1
MG 63	3	2	6	2
MG 64	3	4	3	2
MG 65	2	7	7	6
MG 66	2	10	3	4
MG 67	1	6	19	3
MG 68	4	12	5	9
MG 69	3	5	5	4
MG 70	5	22	12	13
MG 74	5	8	37	5
MG 75	1	19	10	5
SB 6	6	8	3	3
SB 7	1	2	3	1
SB 13	5	1	3	3
SB 14	0	1	3	0
SB 15	1	5	3	2
SQ 8	5	2	5	3
GS 4	5	8	3	5
GS 5	4	0	3	2
P 1	6	0	3	3
P 2	1	2	3	1
B 12	4	0	6	1
B 13	2	3	3	2
B 14	3	9	7	4
B 15	2	9	6	3
GB 50	4	6	0	3
GB 51	3	2	0	4
GB 52	4	7	0	6
GL 10	6	21	3	9
GL 11	1	8	3	3
GL 21	0	4	6	1
GL 22	6	11	8	2
GL 23	0	2	6	1
GL 24	3	6	3	1
GL 25	3	5	5	1
GL 26	2	26	7	5
GL 27	0	2	6	1
GL 28	4	16	6	3
GL 44	2	4	3	1
GL 45	1	2	3	1
BN 7	5	8	3	9

52 B/9 1:50,000 CANADA EDITION 2 52 B/9



SHEBANDOWAN

THUNDER BAY DISTRICT

ONTARIO

Scale 1:50,000 Échelle

GEOLOGY

LEGEND

PROTEROZOIC

- 15 Mafic-Ultramafic Rocks
- 14 Late Sediments (Sibley Gp.)
- 13 Early Sediments (Animikie Gp.)

ARCHEAN

- 12 Granodiorite - Granite
  - (a) early
  - (b) late
- 11 Diorite - Granodiorite
  - (a) early
  - (b) late
- 10 Diorite - Nepheline Syenite
- 9 Felsic Hypabyssal Rocks (QFP)
- 8 Mafic - Ultramafic Intrusive Rocks
- 7 Clastic Sediments (Timiskaming type) includes alkalic - calcalkalic volcanics
- 6 Migmatites
- 5 Metasediments
  - (a) coarse clastic
  - (b) fine clastic
  - (c) chert - iron formation
- 4 Intermediate - Felsic Metavolcanics
  - (a) rhyolite - rhyodacite
  - (b) dacite - andesite
  - (c) fragmental
- 3 Mafic - Intermediate Metavolcanics
  - (a) pillowed
  - (b) fragmental
- 2 Ultramafic Metavolcanics
- 1 Clastic Metasediments (early platform sequences)

SYMBOLS

outcrop (sub-outcrop)
contact (assumed)
fault
lineament
bedding (dip)
pillow (top facing)
foliation
shearing
lineation
syncline
anticline
glacial striae
mineral occurrence
pit, trench
shaft
claim post

GEOPHYSICS

Magnetic Anomaly
airborne
ground
magnetic low

Electromagnetic Anomaly
airborne (single line)
ground

VLF - EM Anomaly
airborne
ground

GEOCHEMISTRY

till
soil
rock

MINERAL OCCURRENCES

(1) Mandarin Mines
(2) Trans-Canada
(3) Shebandowan Mine
(4) Gold Creek
(5) Scali
(6) Duckworth
(7) Lamport
(8) Jalna
(9) Begin
(10) Goldale Mines
(11) Lockerne-Alator
(12) Andowan Gp.2
(13) Andowan Gp.5
(14) Lake Shebandowan
(15) Copper Island
(16) Greenwater Lake
(17) Shebandowan Mine
(18) Anderson
(19) Vanguard
(20) Montco
(21) Unnamed
(22) Upper Shebandowan
(23) Harkness
(24) Whalen
(25) Shawin
(26) Kumpala
(27) Lake Shebandowan
(28) Cornell
(29) Seemar
(30) Haynes Shebandowan
(31) Middle Gap Island
(32) Divide Lake
(33) Milkie
(34) Anderson F. Prospect
(35) Lobanor
(36) West JF
(37) Ourgold
(38) Swamp River
(39) West Greenwich
(40) Green Coast
(41) Avenue
(42) Duckworth
(43) Bandore
(44) Bandore
(45) Calvert
(46) Middle Shebandowan

SOURCES OF DATA

(1) OGS Map P.3082 (Blackwell)
(2) OGS GR 53 (Kashabowie)
(3) OGS GR 110 (Lower Shebandowan)
(4) OGS Map P.223 (Shebandowan West)
(5) OGS Map P.825 (Duckworth)
(6) OGS Map P.826 (Lamport)
(7) OGS Map P.708 (Hagey)
(8) OGS Map P.709 (Conacher)
(9) OGS Map P. 3083 (Larrie)
(10) GSC Airmag 1102G
(11) GSC OF 1480
(12) OGS NOEGTS 56
(13) OGS GDIF B/9 NE, SE, SW, NW
(14) OGS GR 19 (Burchell L., Map 2036)
(15) OGS GR 53 (Greenwater L., Map 2127) (Kashabowie, Map 2128)

MAGNETIC DECLINATION :

DATE -
REVISED -

GEOLOGY INDEX

CLAIM MAP INDEX

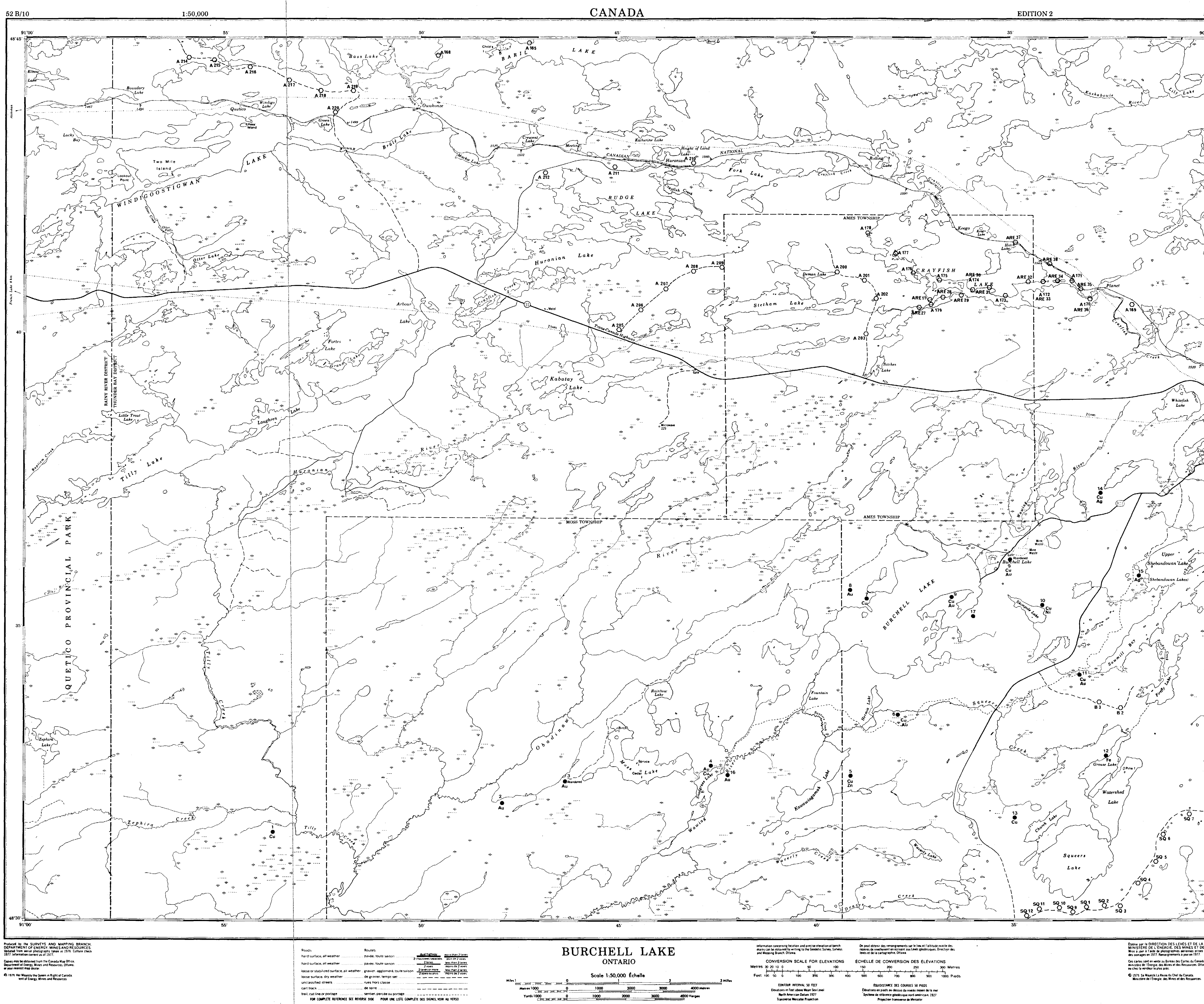
SHEBANDOWAN
52 B/9
EDITION 2

MINGOLD RESOURCES INC.

PLATE NO. 6

230

SAMPLE No.	NORMALIZED VALUES normalized to 20 kg. of -6 mm material COLD grains	COLD micrograms	CHARACTER SAMPLE Au ppb 5	GOLD RATING
SQ 1	1	4	5	1
SQ 2	3	2	3	3
SQ 3	3	4	3	2
SQ 4	1	1	3	1
SQ 5	0	1	3	0
SQ 6	2	4	17	3
SQ 7	2	4	5	2
SQ 9	2	2	3	4
SQ 10	3	1	6	3
SQ 11	0	0	3	0
SQ 12	3	3	9	3
B 2	1	2	3	1
B 3	3	2	3	2
A 165	1	1	3	1
A 168	0	5	7	1
A 169	6	30	3	10
A 170	4	10	3	4
A 171	1	3	3	1
A 172	3	3	3	4
A 173	2	2	3	1
A 174	4	20	3	8
A 175	0	1	3	0
A 176	2	15	3	5
A 177	1	3	3	1
A 178	1	2	3	1
A 179	3	5	3	4
A 200	2	2	3	2
A 201	1	1	3	1
A 202	1	1	3	2
A 203	0	0	3	0
A 205	0	2	3	0
A 206	0	1	3	0
A 207	0	1	3	0
A 208	0	2	3	0
A 209	0	1	3	0
A 210	0	5	6	1
A 211	1	1	3	1
A 212	0	0	3	0
A 214	2	3	7	4
A 215	0	2	3	1
A 216	0	0	3	0
A 217	0	1	3	0
A 218	0	0	3	0
A 219	1	1	3	1
A 220	0	1	3	0
ARE 11	1	0	12	0
ARE 27	0	4	3	1
ARE 28	0	2	3	1
ARE 29	1	14	3	3
ARE 30	1	10	3	2
ARE 31	0	2	3	0
ARE 32	1	7	3	1
ARE 33	2	4	3	1
ARE 34	1	1		0
ARE 35	0	0	3	0
ARE 36	2	28	3	6
ARE 37	0	1	3	0
ARE 38	0	3	3	1



GEOLOGY

LEGEND

PROTEROZOIC

- 15 Mafic-Ultramafic Rocks
- 14 Late Sediments (Sibley Gp.)
- 13 Early Sediments (Animikie Gp.)

ARCHEAN

- 12 Granodiorite - Granite
  - (a) early
  - (b) late
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  - (a) early
  - (b) late
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  - (b) dacite - andesite
  - (c) fragmental
- 3 Mafic - Intermediate Metavolcanics
  - (a) pillowed
  - (b) fragmental
- 2 Ultramafic Metavolcanics
- 1 Clastic Metasediments (early platform sequences)

SYMBOLS

- outcrop (sub-outcrop)
- contact (assumed)
- fault
- lineament
- bedding (dip)
- pillow (top facing)
- foliation
- shearing
- lineation
- syncline
- anticline
- glacial striae
- mineral occurrence
- pit, trench
- shaft
- claim post

GEOPHYSICS

Magnetic Anomaly
- airborne
- ground
- magnetic low

Electromagnetic Anomaly
- airborne (single line)
- ground

VLF-EM Anomaly
- airborne
- ground

GEOCHEMISTRY

- till
- soil
- rock

MINERAL OCCURRENCES

(1) Obadinaw Rover
(2) Minoletti
(2) Ardeen
(4) Snodgrass Lake
(5) Fountain Lake
(6) Andover - Trader
(7) Hermes
(8) Round Lake
(9) Tip Top
(10) Skimpole Lake
(11) Moffatt
(12) Grouse Lake
(13) Sqeers Lake
(14) Burchell Lake
(15) Ritchie Estate
(16) Lobanor
(17) Goldona

SOURCES OF DATA

(1) OGS GR 85 (Tilly & Powell L. Maps 2203,2204)
(2) OGS GR 19 (Burchell Lake, Map 2036)
(3) OGS NOEGTS 56
(4) OGS GDIF 52B/10 SE, SW
(5) GSC OF 1480
(6) GSC Airmag 1112G

MAGNETIC DECLINATION :

DATE -
REVISED -

GEOLOGY INDEX

TABLEAU D'ASSEMBLAGE DU SYSTÈME NATIONAL DE RÉFÉRENCE CARTOGRAPHIQUE

52 B/14	52 B/15	52 B/16
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52 B/6	52 B/7	52 B/8

INDEX TO ADJOINING MAPS OF THE NATIONAL TOPOGRAPHIC SYSTEM

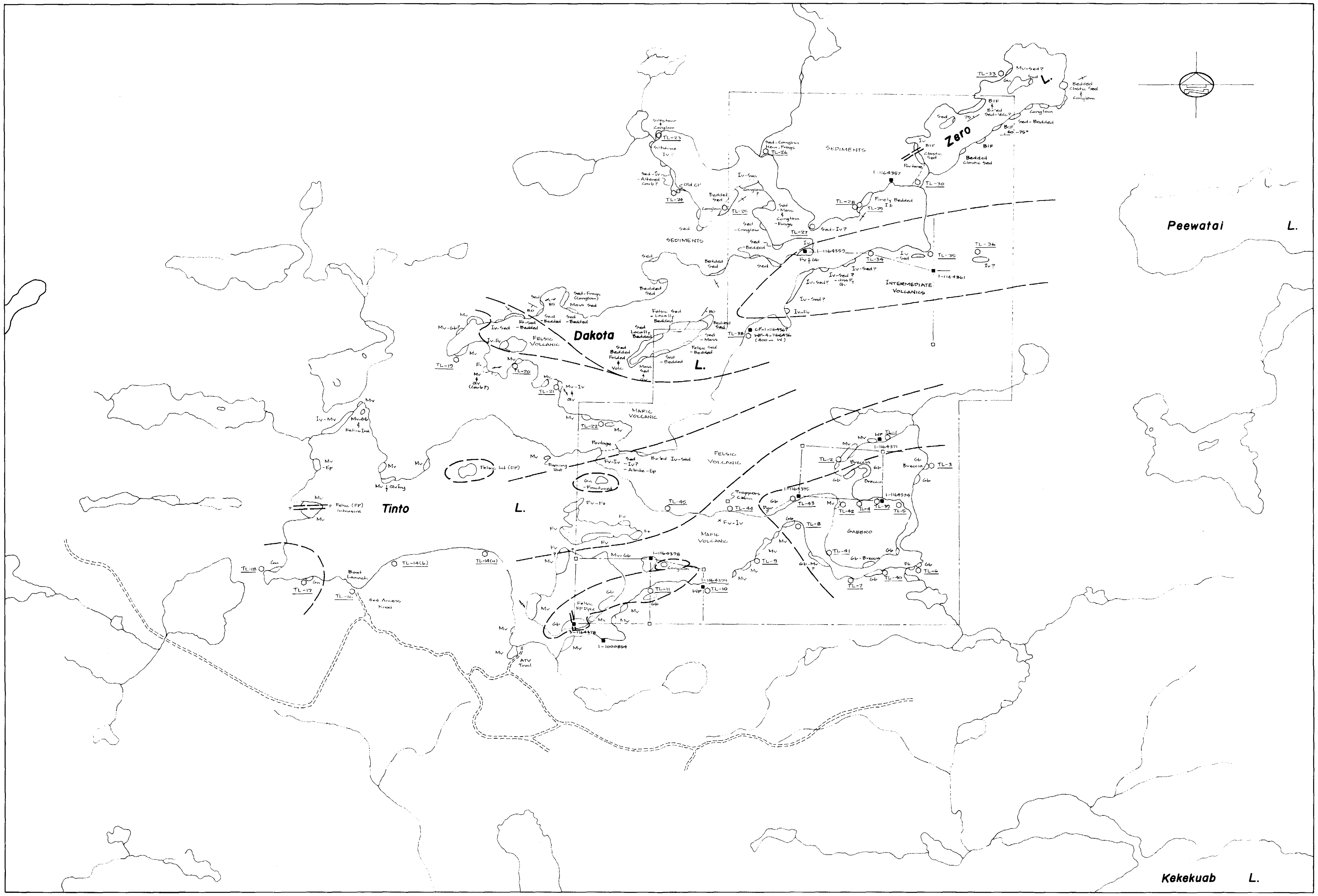
CLAIM MAP INDEX

BURCHELL LAKE
52 B/10
EDITION 2

MINGOLD RESOURCES INC.

PLATE NO. 7

SAMPLE No.	NORMALIZED VALUES normalized to 20 kg. of -6 mm material GOLD grains	GOLD micrograms	CHARACTER SAMPLE Au ppb 5	GOLD RATING
TL 1	4	18	3	10
TL 2	0	9	3	2
TL 3	0	2	3	0
TL 4	0	3	3	1
TL 5	2	0	3	2
TL 6	3	8	3	4
TL 7	6	3	3	5
TL 8	2	8	3	3
TL 9	0	2	3	0
TL 10	0	4	3	1
TL 11	0	0	3	0
TL 14a	2	13	6	4
TL 14b	1	17	3	4
TL 16	0	16	3	3
TL 17	0	0	3	0
TL 18	3	9	3	4
TL 19	0	1	3	0
TL 20	2	4	3	2
TL 21	0	0	3	0
TL 22	0	4	3	1
TL 23	0	1	3	0
TL 24	1	11	3	4
TL 25	3	9	3	3
TL 26	0	0	3	0
TL 27	0	0	3	0
TL 28	0	0	3	0
TL 29	0	0	3	0
TL 30	4	5	3	3
TL 33	0	5	3	1
TL 34	0	8	3	2
TL 35	1	4	3	1
TL 36	0	0	3	0
TL 38	2	6	3	2
TL 39	0	3	3	1
TL 40	0	3	3	1
TL 41	0	5	3	1
TL 42	0	3	3	<1
TL 43	0	9	3	2
TL 44	0	5	3	1
TL 45	1	3	3	1



RECONNAISANCE PROJECT

TINTO CLAIMS

ROCK TYPES

	Gn	GRANITE
	Gb	GABBRO
	Sed	SEDIMENTS
	BIF	BANDED MAGNETITE IRON FORMATION
	MV	MAFIC VOLCANICS
	IV	INTERMEDIATE VOLCANICS
	FV	FELSIC VOLCANICS

SYMBOLS

- 60° BEDDING (DIP DIRECTION)
- FOLIATION
- GEOLOGICAL CONTACT (ASSUMED)
- OUTCROP
- CLAIM POST
- CLAIM BOUNDARY (ASSUMED)
- BULK TILL SAMPLE

ABBREVIATIONS

Hem	HEMATITE
Carb	CARBONATE
Ep	EPIDOTE
Conglom	CONGLOMERATE
Qv	QUARTZ VEIN
FP	FELDSPAR PORPHYRY
Frags	FRAGMENTS
Py	PYRITE

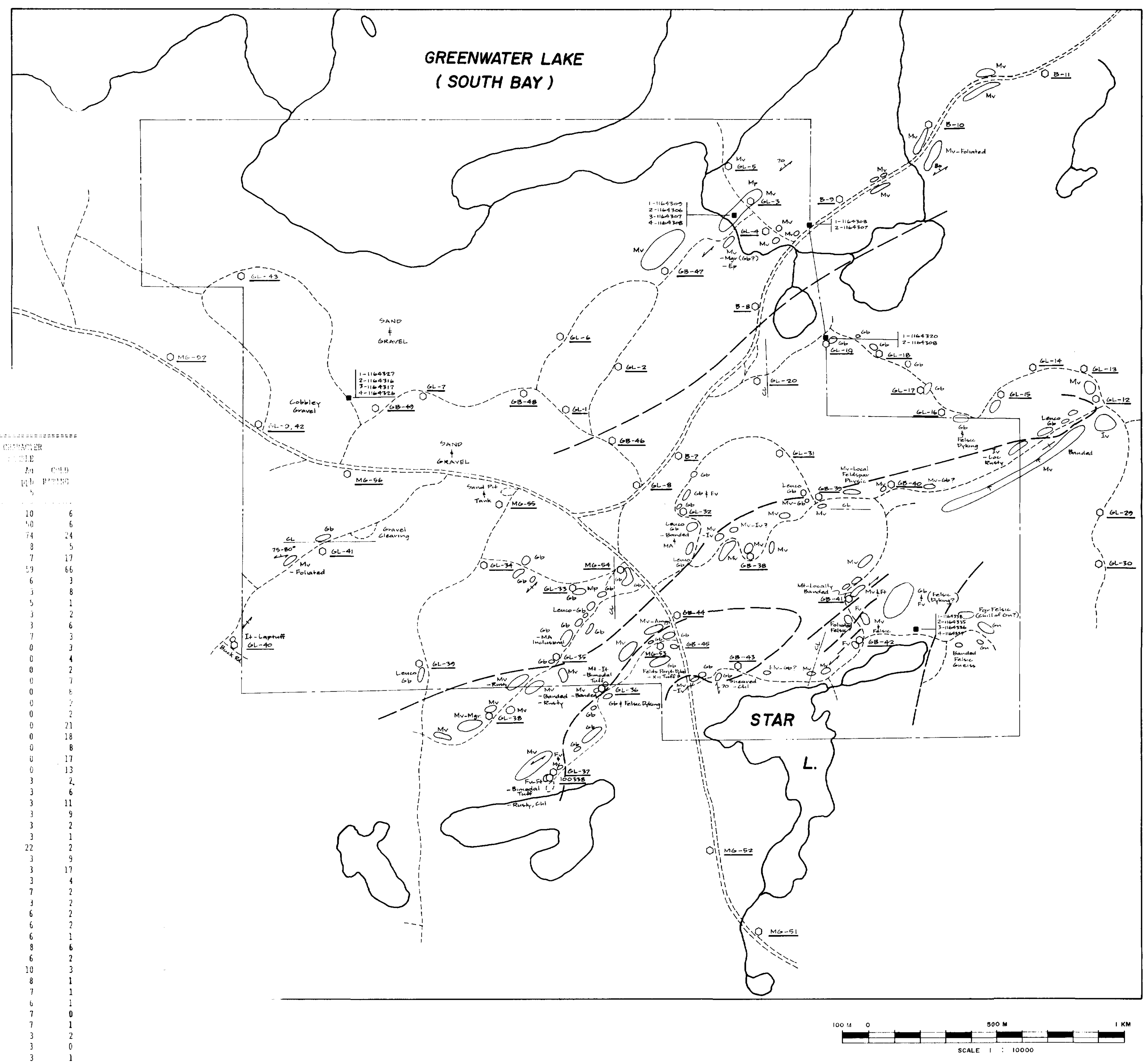
100 M 0 500 M 1 KM

SCALE 1 : 10000

52F04NE9050 63.6161 ADRIAN

250

FIGURE 9



RECONNAISANCE PROJECT

GREENWATER CLAIMS

ROCK TYPES

Gn	GRANITE
Gb	GABBRO
MV / MP	MAFIC VOLCANIC / MAFIC PILLOWED FLOW
IV	INTERMEDIATE VOLCANICS
FT / FV	FELSIC TUFF / FELSIC VOLCANIC

SYMBOLS

- FOLIATION (DIP DIRECTION)
- GEOLOGICAL CONTACT (ASSUMED)
- OUTCROP
- CLAIM POST (LOCATED, ASSUMED)
- CLAIM LINE
- BULK TILL SAMPLE

ABBREVIATIONS

Amygs	AMYGDULES
Chl	CHLORITE
Ep	EPIDOTE
Lap	LAPILLI
Leuco	LEUCOCRATIC
Xtl	CRYSTAL

NORMALIZED VALUES CHARACTER
normalized to 20 kg. SAMPLE

SAMPLE No.	of 6 mm material GOLD grains	GOLD micrograms	Au ppb 5	GOLD RATING
MG 51	8	15	10	6
MG 52	0	23	50	6
MG 53	22	84	74	24
MG 54	8	15	8	5
MG 55	11	[illegible]	7	17
MG 56	5	217	59	66
MG 57	1	11	6	3
B 7	3	22	3	8
B 8	2	0	5	1
B 9	3	5	3	2
B 10	2	24	3	6
B 11	1	8	7	3
GB 38	1	10	0	3
GB 39	2	12	0	4
GB 40	2	4	0	2
GB 41	6	7	0	7
GB 42	1	33	0	8
GB 43	1	4	0	2
GB 44	1	7	0	2
GB 45	15	61	0	21
GB 46	11	31	0	18
GB 47	5	6	0	8
GB 48	4	19	0	17
GB 49	9	21	0	13
GL 1	0	9	3	2
GL 2	4	4	3	6
GL 3	6	16	3	11
GL 4	4	14	3	9
GL 5	3	1	3	2
GL 6	1	3	3	1
GL 7	2	5	22	2
GL 8	2	28	3	9
GL 9	16	34	3	17
GL 12	0	19	3	4
GL 13	1	5	7	2
GL 14	1	1	3	2
GL 15	1	2	6	2
GL 16	1	6	6	2
GL 17	0	2	6	1
GL 18	5	13	8	6
GL 19	0	11	6	2
GL 20	0	13	10	3
GL 29	2	5	8	1
GL 30	2	5	7	1
GL 31	4	6	6	1
GL 32	0	1	7	0
GL 33	3	4	7	1
GL 34	3	11	3	2
GL 35	1	2	3	0
GL 36	2	3	3	1
GL 37	2	9	3	2
GL 38	4	7	3	1
GL 39	10	57	3	11
GL 40	1	4	3	1
GL 41	6	7	3	1
GL 42	10	38	3	8
GL 43	9	14	3	3

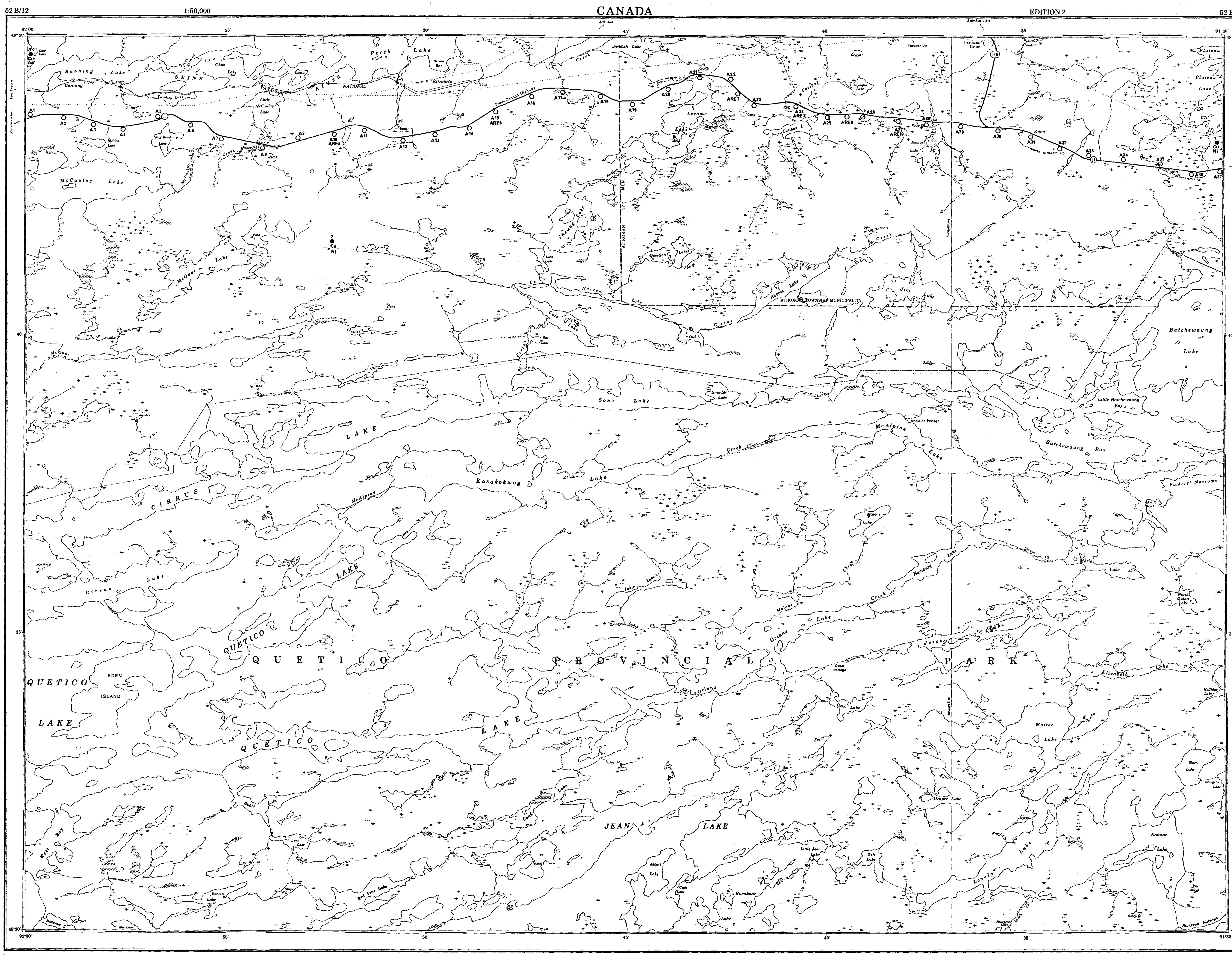
FIGURE 11

SAMPLE No.	NORMALIZED VALUES normalized to 20 kg. of -6 mm material GOLD grains	GOLD micrograms	CHARACTER SAMPLE Au ppb 5	GOLD RATING
A 38	0	19	3	4
A 39	0	9	3	2
A 40	1	9	6	3
A 41	1	8	7	3
A 42	0	16	7	3
A 43	0	14	3	3
A 44	0	2	3	0
A 45	0	30	3	6
A 58	3	62	3	16
A 59	0	15	3	3
A 60	2	4	3	2
A 61	0	18	3	4
A 62	0	1	3	0
A 63	0	9	3	2
A 64	0	1	3	0
A 65	0	1	3	0
A 66	0	0	3	0
A 67	2	4	3	2
A 68	0	3	3	1
A 69	1	2	3	1
A 70	0	3	3	1
A 71	0	2	3	0
A 72	0	0	12	0

270

SAMPLE No.	NORMALIZED VALUES normalized to 20 kg. of -6 mm material GOLD grains	GOLD micrograms	CHARACTER SAMPLE Au ppb 5	GOLD RATING
A 1	0	2	3	1
A 2	1	21	3	6
A 3	0		3	0
A 4	0	25	84	7
A 5	0	3	3	1
A 6	1	13	3	5
A 7	0	5	3	1
A 8	0	1	3	0
A 9	1	26	3	7
A 10	3	4	3	3
A 11	2	13	3	3
A 12	0	6	8	1
A 13	0	13	3	3
A 14	0	10	3	2
A 15	4	27	3	10
A 16	0	9	3	2
A 17	1	14	9	7
A 18	0	3	3	1
A 19	1	13	3	4
A 20	0	3	3	1
A 21	1	4	3	1
A 22	4	7	3	4
A 23	0	35	3	7
A 24	4	20	11	8
A 25	1	9	3	4
A 26	2	5	3	3
A 27	3	5	8	4
A 28	2	9	3	4
A 29	0	12	3	2
A 30	0	24	17	5
A 31	0	15	3	3
A 32	0	27	3	5
A 33	0	5	3	1
A 34	1	11	3	3
A 35	0	7	3	1
A 36	0	3	5	1
A 37	0	8	3	2
ARE 5	0	1	3	0
ARE 6	1	13	3	3
ARE 7	1	106	8	21
ARE 8	0	4	13	1
ARE 9	0	6	3	1
ARE 10	0	28	7	6

52 B/12 1:50,000 CANADA EDITION 2 52 B/12



GEOLOGY

LEGEND

PROTEROZOIC

- 15 Mafic - Ultramafic Rocks
- 14 Late Sediments (Sibley Gp.)
- 13 Early Sediments (Animikie Gp.)

ARCHEAN

- 12 Granodiorite - Granite (a) early (b) late
- 11 Diorite - Granodiorite (a) early (b) late
- 10 Diorite - Nepheline Syenite
- 9 Felsic Hypabyssal Rocks (QFP)
- 8 Mafic - Ultramafic Intrusive Rocks
- 7 Clastic Sediments (Timiskaming type) includes alkalic - calcalkalic volcanics
- 6 Migmatites
- 5 Metasediments (a) coarse clastic (b) fine clastic (c) chert - iron formation
- 4 Intermediate - Felsic Metavolcanics (a) rhyolite - rhyodacite (b) dacite - andesite (c) fragmental
- 3 Mafic - Intermediate Metavolcanics (a) pillowed (b) fragmental
- 2 Ultramafic Metavolcanics
- 1 Clastic Metasediments (early platform sequences)

SYMBOLS

outcrop (sub-outcrop)
contact (assumed)
fault
lineament
bedding (dip)
pillow (top facing)
foliation
shearing
lineation
syncline
anticline
glacial striae
mineral occurrence
pit, trench
shaft
claim post

GEOPHYSICS

Magnetic Anomaly
airborne
ground
magnetic low

Electromagnetic Anomaly
airborne (single line)
ground

VLF-EM Anomaly
airborne
ground

GEOCHEMISTRY

till
soil
rock

MINERAL OCCURRENCES

(1) Andowan
(2) Bill Lake
(3) Mineta

SOURCES OF DATA

(1) GSC OF 1480
(2) GSC Airmag 1132G
(3) OGS GR 239 (Map 2464, Righteye L.)
(4) GSC Map 1666A (Atikokan Area)

MAGNETIC DECLINATION :

DATE -
REVISED -

GEOLOGY INDEX

CLAIM MAP INDEX

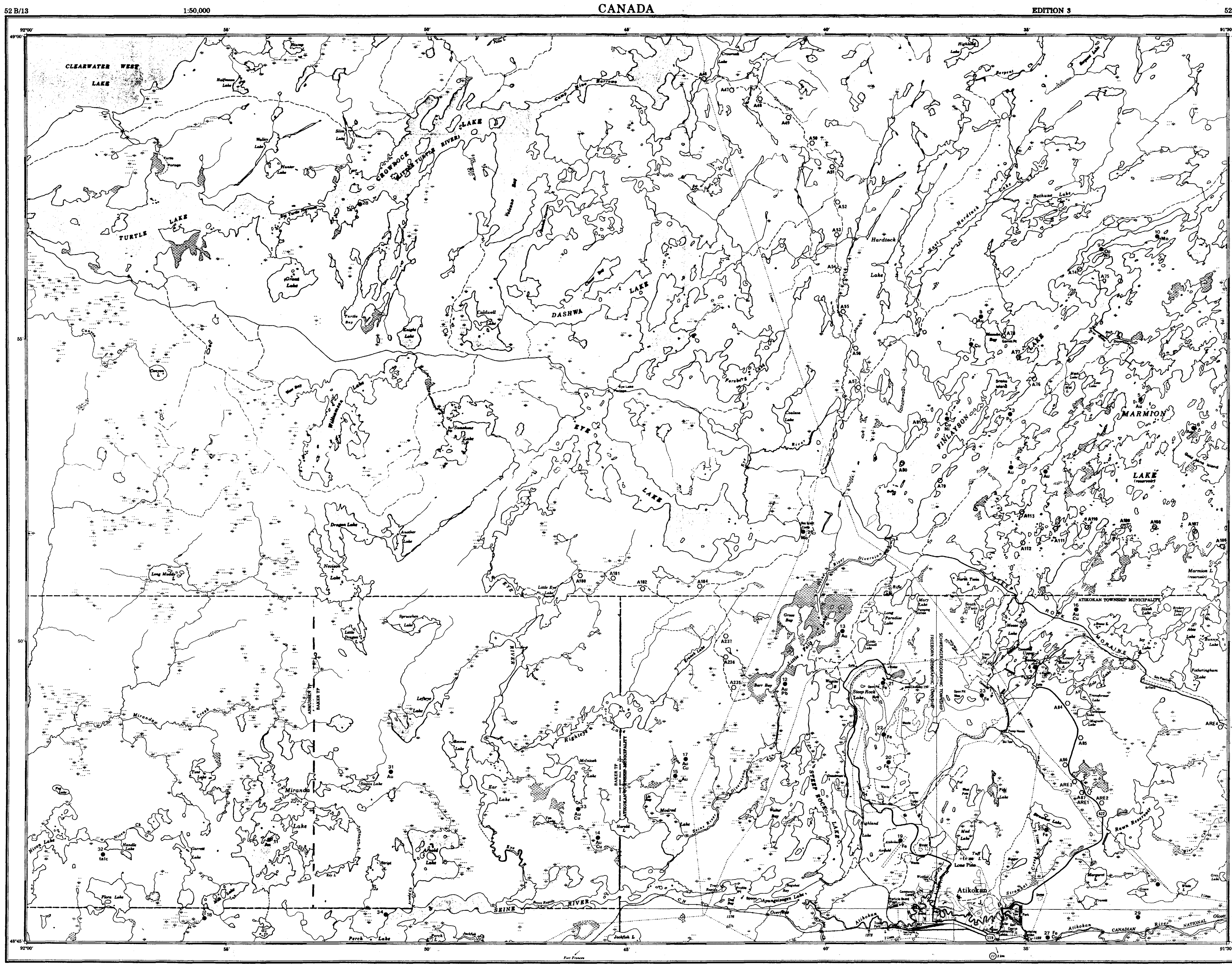
QUETICO LAKE
RAINY RIVER DISTRICT
ONTARIO
Scale 1:50,000 Échelle

QUETICO LAKE
52 B/12
EDITION 2

MINGOLD RESOURCES INC.

PLATE NO. 13

SAMPLE No.	NORMALIZED VALUES normalized to 20 kg. of -6 mm material GOLD grains	GOLD micrograms	CHARACTER SAMPLE Au ppb 5	GOLD RATING
A 46	2	0	3	1
A 47	0	0	3	0
A 48	2	0	5	1
A 49	0	0	3	0
A 50	0	0	3	0
A 51	0	0	3	0
A 52	5	1	3	3
A 53	0	2	3	1
A 54	0	0	3	0
A 55	3	13	3	8
A 56	1	0	3	1
A 57	0	2	3	0
A 74	0	0	3	0
A 75	0	3	3	1
A 76	0	7	3	1
A 77	0	4	3	1
A 78	0	5	3	1
A 79	0	0	3	0
A 80	0	1	3	0
A 81	4	76	3	28
A 84	1	23	5	7
A 85	0	30	6	6
A 86	1	7	5	3
A 87	13	16	3	10
A 106	2	11	6	4
A 107	0	5	7	1
A 108	0	10	5	2
A 109	0	5	3	1
A 110	0	5	6	1
A 111	0	13	5	3
A 112	1	11	3	3
A 113	3	62	22	25
A 180	0	0	3	0
A 181	0	9	3	2
A 182	1	1	3	2
A 184	0	1	3	0
A 235	1	1	3	1
A 236	0	3	3	1
A 237	1	1	3	1
ARE 1	1	25	9	5
ARE 2	0	7	3	1
ARE 3	0	4	3	1
ARE 4	0	4	3	1



GEOLOGY

LEGEND

PROTEROZOIC

15 Mafic - Ultramafic Rocks

14 Late Sediments (Sibley Gp.)

13 Early Sediments (Animikie Gp.)

ARCHEAN

12 Granodiorite - Granite
(a) early
(b) late

11 Diorite - Granodiorite
(a) early
(b) late

10 Diorite - Nepheline Syenite

9 Felsic Hypabyssal Rocks (QFP)

8 Mafic - Ultramafic Intrusive Rocks

7 Clastic Sediments (Timiskaming type) includes alkalic - calcalkalic volcanics

6 Migmatites

5 Metasediments
(a) coarse clastic
(b) fine clastic
(c) chert - iron formation

4 Intermediate - Felsic Metavolcanics
(a) rhyolite - rhyodacite
(b) dacite - andesite
(c) fragmental

3 Mafic - Intermediate Metavolcanics
(a) pillowed
(b) fragmental

2 Ultramafic Metavolcanics

1 Clastic Metasediments (early platform sequences)

SYMBOLS

outcrop (sub-outcrop)
contact (assumed)
fault
lineament
bedding (dip)
pillow (top facing)
foliation
shearing
breccia
syncline
anticline
glacial striae
mineral occurrence
pit, trench
shaft
claim post

GEOPHYSICS

Magnetic Anomaly
airborne
ground
magnetic low

Electromagnetic Anomaly
airborne (single line)
ground

VLF - EM Anomaly
airborne
ground

GEOCHEMISTRY

till
sed
rock

MINERAL OCCURRENCES

(1) Hiawatha
(2) 80 Degree
(3) Scheider
(4) Fin-Lan Copper
(5) Connolly
(6) Plator Gralouise
(7) Nic-Cop
(8) Golden Twins
(9) Addicks
(10) North End
(11) Miranda
(12) Steep Rock (Au)
(13) Black Fly
(14) Harold Lake
(15) Elizabeth
(16) Snow Lake
(17) Rebair
(18) Milk Lake
(19) Canadian Charleson
(20) Errington Iron Mine
(21) Hogarth Iron Mine
(22) Roberts Iron Mine
(23) Falls Bay Iron Mine
(24) Steep Rock Lake
(25) Straw Hat Lake
(26) Eye Lake
(27) Little Falls
(28) Turtle Lake
(29) Cogs
(30) Hydroline
(31) Bergman
(32) Niven Lake Asbestos
(33) McIntosh
(34) Perch Lake

SOURCES OF DATA

(1) GSC OF 1480
(2) GSC Airmag 1133G
(3) OGS GR 239 (Map 2464, Righteye L.)
(4) GSC Map 1666A (Atikokan Area)
(5) OGS GR 145 (Map 2297 Finlayson L, Map 2298 Marmion L.)
(6) OGS Map P.2389 (Sapawe West)

MAGNETIC DECLINATION :

DATE -
REVISED -

GEOLOGY INDEX

CLAIM MAP INDEX

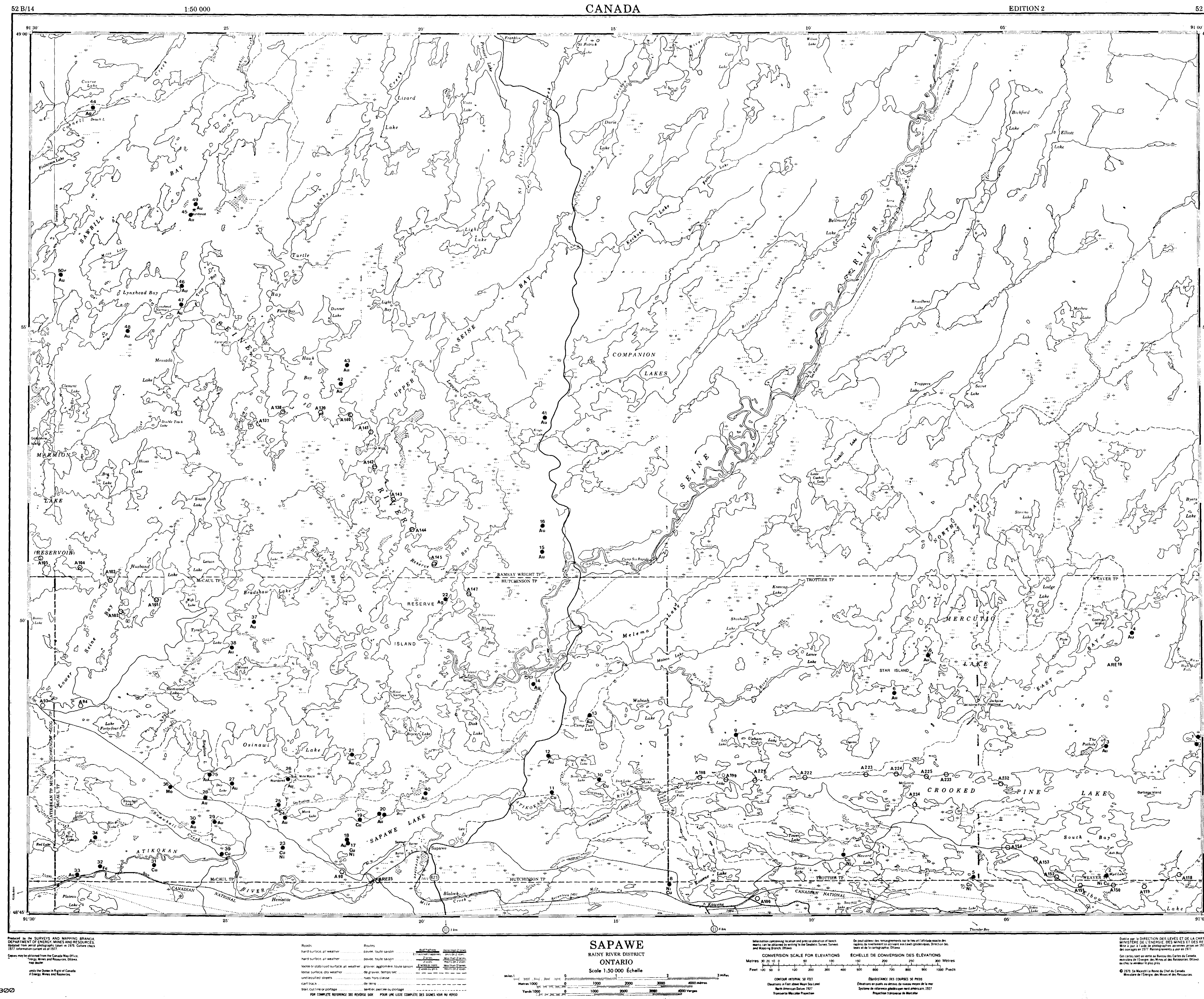
ATIKOKAN
52 B/13
EDITION 3

MINGOLD RESOURCES INC.

PLATE NO. 15

290

SAMPLE No.	NORMALIZED VALUES normalized to 20 kg. of -6 mm material GOLD grains	GOLD micrograms	CHARACTER SAMPLE Au ppb 5	GOLD RATING
A 90	0	7	3	1
A 93	0	6	3	1
A 94	0	10	3	2
A 100	0	5	3	1
A 101	2	148	6	41
A 102	2	6	7	2
A 103	5	80	7	22
A 104	0	63	3	13
A 105	0	5	3	1
A 118	1	4	9	3
A 119	0	0	5	0
A 137	0	14	3	3
A 138	0	4	3	1
A 139	0	11	11	3
A 140	0	41	3	8
A 141	0	1	3	0
A 142	0	17	5	4
A 143	2	23	3	5
A 144	0	126	5	25
A 145	0	11	3	2
A 147	0	66	19	14
A 150	0	2	3	0
A 151	0	3	3	1
A 152	0	2	3	0
A 153	0	0	3	0
A 154	0	2	5	0
A 198	3	2	3	2
A 199	10	21	3	13
A 221	0	13	3	3
A 222	0	26	19	6
A 223	0	1	3	0
A 224	0	25	7	5
A 225	1	12	5	5
A 232	0	1	3	0
A 233	0	0	3	0
A 234	0	0	3	0
ARE 19	2	5	3	1
ARE 25	0	4	3	1



GEOLOGY

LEGEND

PROTEROZOIC

15 Mafic-Ultramafic Rocks

14 Late Sediments (Sibley Gp.)

13 Early Sediments (Animikie Gp.)

ARCHEAN

12 Granodiorite - Granite (a) early (b) late

11 Diorite - Granodiorite (a) early (b) late

10 Diorite - Nepheline Syenite

9 Felsic Hypabyssal Rocks (QFP)

8 Mafic - Ultramafic Intrusive Rocks

7 Clastic Sediments (Timiskaming type) includes alkalic - calcalkalic volcanics

6 Migmatites

5 Metasediments (a) coarse clastic (b) fine clastic (c) chert-iron formation

4 Intermediate - Felsic Metavolcanics (a) rhyolite - rhyodacite (b) dacite - andesite (c) fragmental

3 Mafic - Intermediate Metavolcanics (a) pillowed (b) fragmental

2 Ultramafic Metavolcanics

1 Clastic Metasediments (early platform sequences)

SYMBOLS

outcrop (sub-outcrop)
contact (assumed)
fault
lineament
bedding (dip)
pillow (top facing)
foliation
shearing
lineation
syncline
anticline
glacial striae
mineral occurrence
pit, trench
shaft
claim post

GEOPHYSICS

Magnetic Anomaly
airborne
ground
magnetic low

Electromagnetic Anomaly
airborne (single line)
ground

VLF-EM Anomaly
airborne
ground

GEOCHEMISTRY

till
soil
rock

MINERAL OCCURRENCES

(1) Mike
(2) Mud Lake
(3) Pothole
(4) X 656
(5) Ablwin
(6) Star Island
(7) Heward Lake
(8) Kawene Lake
(9) White Lily
(10) Gray
(11) Atikokan Iron Mine
(12) Hill
(13) Moose Horn
(14) Minto
(15) Sunbeam
(16) AL308
(17) Kemins
(18) Steep Rock (Au)
(19) Staines
(20) Mammoth
(21) R71
(22) Reserve Island
(23) Sapawe Lake
(24) R548
(25) White Head
(26) Sapawe Gold Mine
(27) Day Lake
(28) Partridge
(29) Agnico Eagle
(30) R571
(31) Patterson
(32) Quinn
(33) Bull Quartz
(34) Olcott
(35) Almada
(36) Pipeline
(37) Clearwater
(38) Jack Lake
(39) Archibald
(40) J. J. Walsh
(41) Pettigrew
(42) Hawk Bay
(43) Henry (Tilden)
(44) Burrex?
(45) Hammond Reef
(46) Stewart-Sande
(47) Bates
(48) Grey
(49) Burrex ?

SOURCES OF DATA

(1) GSC Airmag 1123G
(2) GSC OF 1480
(3) OGS GR 145 (Marmion L. Map 2298)
(4) OGS Map P.2388 (Sapawe east)
(5) OGS Map P.2389 (Sapawe west)

MAGNETIC DECLINATION :

DATE -
REVISED -

GEOLOGY INDEX

CLAIM MAP INDEX

SAPAWE
52 B/14
EDITION 2

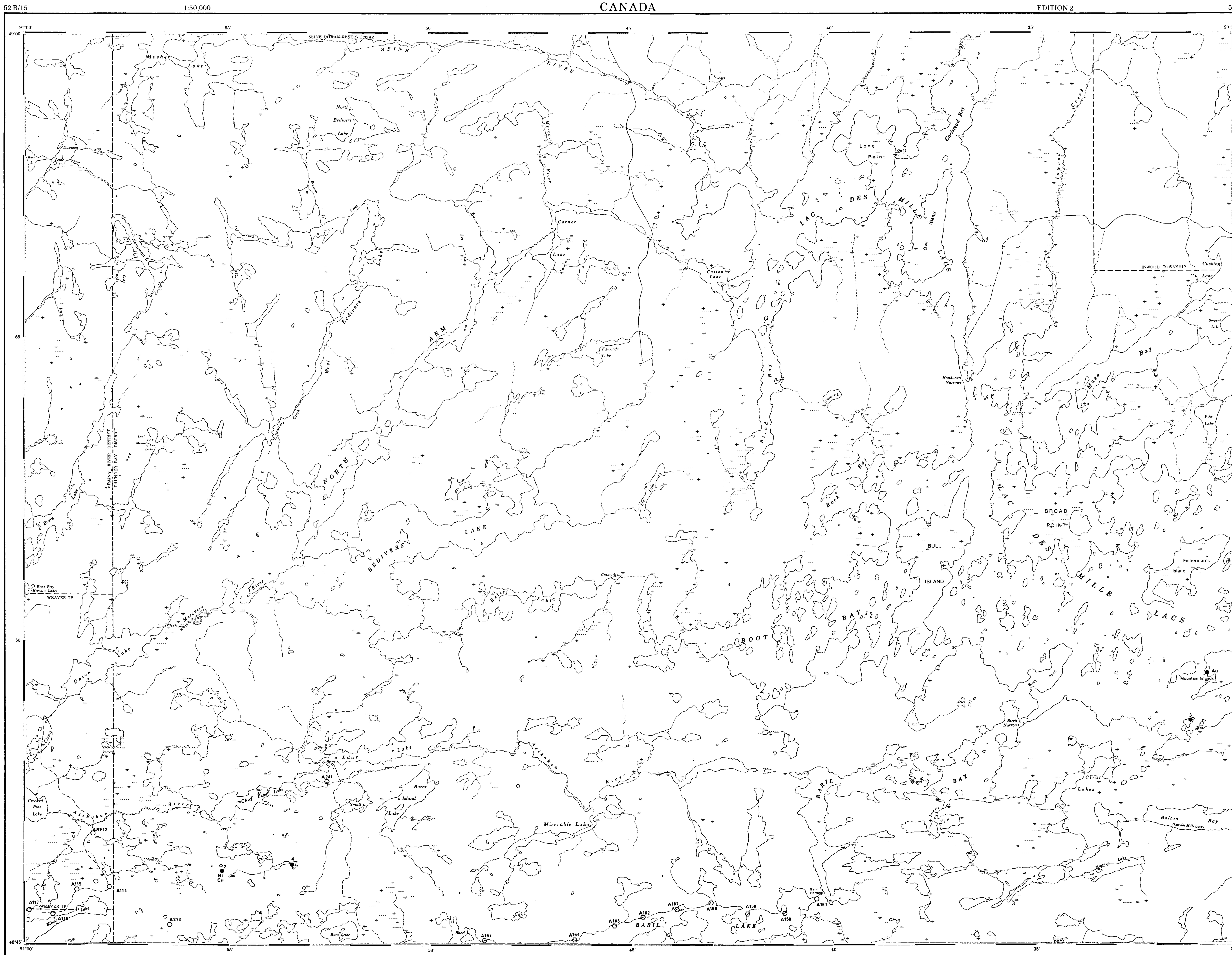
MINGOLD RESOURCES INC.

PLATE NO. 16

300

SAMPLE No.	NORMALIZED VALUES normalized to 20 kg. of -6 mm material GOLD grains	GOLD micrograms	CHARACTER SAMPLE Au ppb 5	GOLD RATING
A 114	0	1	3	0
A 115	0	0	3	0
A 116	0	1	3	0
A 117	1	4	3	2
A 157	1	8	3	3
A 158	0	0	3	0
A 159	0	7	3	1
A 160	0	1	3	0
A 161	0	1	3	0
A 162	0	0	3	0
A 163	1	6	3	2
A 164	0	3	3	1
A 167	0	0	3	0
A 213	0	2	3	0
A 241	1	2	8	2
ARE 12	0	4	3	1

52 B/15 1:50,000 CANADA EDITION 2 52 B/15



BEDIVERE LAKE
ONTARIO
Scale 1:50,000 Échelle

GEOLOGY

LEGEND

PROTEROZOIC

15 Mafic-Ultramafic Rocks

14 Late Sediments (Sibley Gp.)

13 Early Sediments (Animikie Gp.)

ARCHEAN

12 Granodiorite - Granite
(a) early
(b) late

11 Diorite - Granodiorite
(a) early
(b) late

10 Diorite - Nepheline Syenite

9 Felsic Hypabyssal Rocks (QFP)

8 Mafic - Ultramafic Intrusive Rocks

7 Clastic Sediments (Timiskaming type) includes alkalic - calcalkalic volcanics

6 Migmatites

5 Metasediments
(a) coarse clastic
(b) fine clastic
(c) chert-iron formation

4 Intermediate - Felsic Metavolcanics
(a) rhyolite - rhyodacite
(b) dacite - andesite
(c) fragmental

3 Mafic - Intermediate Metavolcanics
(a) pillowed
(b) fragmental

2 Ultramafic Metavolcanics

1 Clastic Metasediments (early platform sequences)

SYMBOLS

outcrop (sub-outcrop)
contact (assumed)
fault
lineament
bedding (dip)
pillow (top facing)
foliation
shearing
lineation
syncline
anticline
glacial striae
mineral occurrence
pit, trench
shaft
claim post

GEOPHYSICS

Magnetic Anomaly
airborne
ground
magnetic low

Electromagnetic Anomaly
airborne (single line)
ground

VLF-EM Anomaly
airborne
ground

GEOCHEMISTRY

till
soil
rock

MINERAL OCCURRENCES

(1) Island South of Tunn
(2) Tunnel Island
(3) Chief Peter Lake
(4) Lawrence No. 1

SOURCES OF DATA

(1) GSC Airmag 1113G
(2) GSC OF 1480

MAGNETIC DECLINATION :

DATE -
REVISED -

GEOLOGY INDEX

CLAIM MAP INDEX

BEDIVERE LAKE
52 B/15
EDITION 2

MINGOLD RESOURCES INC.

PLATE NO. 17

310

SAMPLE No.	NORMALIZED VALUES normalized to 20 kg. of -6 mm material GOLD grains	GOLD micrograms	CHARACTER SAMPLE Au ppb 5	GOLD RATING
A 242	0	1	3	0
A 243	0	0	3	0
A 244	0	2	3	0
A 245	2	44	3	29
A 246	1	2	3	2
A 247	0	0	3	0
A 248	0	1	3	0
A 249	0	7	3	1
A 250	0	1	3	0
A 251	1	16	3	4
A 252	0	0	3	0
A 253	0	0	3	0
A 256	0	2	3	1
A 257	1	7	3	3
A 258	0	0	3	0
A 259	2	37	3	25
A 260	0	1	3	0
A 262	1	3	3	2
A 264	0	52	3	11
A 265	0	5	3	1
A 273	0	1	3	0
A 274	2	1	3	1
A 275	0	1	3	0
A 276	2	0	3	0
A 277	0	0	10	0
A 278	0	0	3	0
A 279	0	3	3	1
A 281	0	5	3	1
A 282	0	0	3	0
A 283	1	0	3	1
A 286	0	2	3	0
A 287	0	1	3	0
A 288	0	3	3	1
A 289	0	0	3	0
A 290	0	2	81	3
A 291	0	1	3	0
A 292	0	4	3	1
A 293	0	1	3	0

SAMPLE No.	NORMALIZED VALUES normalized to 20 kg. of -6 mm material GOLD grains	GOLD micrograms	CHARACTER SAMPLE Au ppb 5	GOLD RATING
M 1	5	23	3	9
M 2			3	
M 3	5	6	3	7
M 4	8	11	3	7
M 5	6	20	3	10
M 6	7	20	3	9
M 7	4	4	3	3
M 24	0	0	3	0
M 25	0	1	3	0
M 26	3	3	3	3
M 27	2	2	3	3
M 28	0	2	3	1
M 35	4	2	3	5
M 36	5	38	7	10
M 37	1	3	3	3
M 38	3	3	3	4
M 41	0	19	3	4
M 42	2	7	3	3
M 43	0	3	3	1
M 44	0	0	3	0
M 47	3	8	3	3
M 48	1	6	3	2
M 49	3	3	3	2
M 54	4	44	3	12
MRE 6	0	1	3	0
MRE 7	5	10	3	8
MRE 8	1	13	3	5

PIPE LAKE

ONTARIO

RAINY RIVER DISTRICT

Scale 1:50,000 Échelle

CONVERSION SCALE FOR ELEVATIONS

ÉCHELLE DE CONVERSION DES ÉLÉVATIONS

FOR COMPLETE REFERENCE SEE REVERSE SIDE — POUR UNE LISTE COMPLÈTE DES SIGNES VOIR AU VERSO

GEOLOGY

LEGEND

PROTEROZOIC

- 15 Mafic-Ultramafic Rocks
- 14 Late Sediments (Sibley Gp.)
- 13 Early Sediments (Animikie Gp.)

ARCHEAN

- 12 Granodiorite-Granite (a) early (b) late
- 11 Diorite-Granodiorite (a) early (b) late
- 10 Diorite-Nepheline Syenite
- 9 Felsic Hypabyssal Rocks (QFP)
- 8 Mafic-Ultramafic Intrusive Rocks
- 7 Clastic Sediments (Timiskaming type) includes alkalic-calcalkalic volcanics
- 6 Migmatites
- 5 Metasediments (a) coarse clastic (b) fine clastic (c) chert-iron formation
- 4 Intermediate-Felsic Metavolcanics (a) rhyolite-rhyodacite (b) dacite-andesite (c) fragmental
- 3 Mafic-Intermediate Metavolcanics (a) pillowed (b) fragmental
- 2 Ultramafic Metavolcanics
- 1 Clastic Metasediments (early platform sequences)

SYMBOLS

outcrop (sub-outcrop); contact (assumed); fault; lineament; bedding (dip); pillow (top facing); foliation; shearing; lineation; syncline; anticline; glacial striae; mineral occurrence; pit, trench; shaft; claim post

GEOPHYSICS

Magnetic Anomaly: airborne; ground; magnetic low

Electromagnetic Anomaly: airborne (single line); ground

VLF-EM Anomaly: airborne; ground

GEOCHEMISTRY

till; soil; rock

MINERAL OCCURRENCES

(1) Hidden Treasure Mine
(2) Kroomco
(3) Mills Creek
(4) Mayflower
(5) Log Cabin
(6) Gehl Lake
(7) Sturgeon Falls

SOURCES OF DATA

(1) OGS Map P.2405 (geol.)
(2) OGS GR #226 (Calm Lake, Map 2467)
(3) OGS OFR 5512
(4) OGS OFR 5539 (prop. description)
(5) OGS OFR 5334 (prop. description)
(6) OGS MDC #24 (prop. description)
(7) OGS MDC #16 (prop. description)
(8) OGS GDIF 466
(9) OGS GDIF 467 (MB)
(10) OGS Map P.2163 (data)
(11) OGS Map P.293 (geol.)

MAGNETIC DECLINATION :

DATE -
REVISED -

GEOLOGY INDEX

CLAIM MAP INDEX

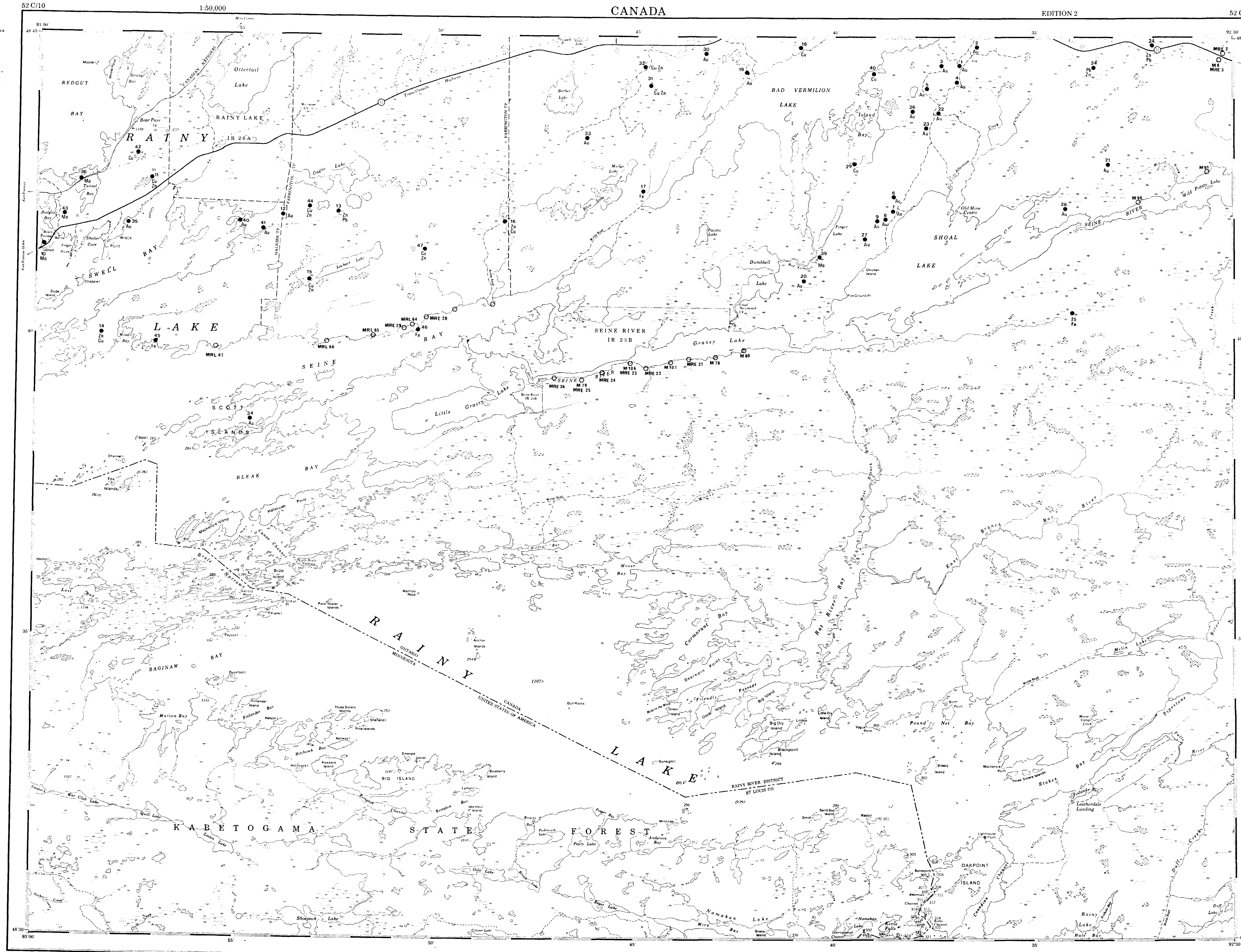
PIPE LAKE
52 C/9
EDITION 2

MINGOLD RESOURCES INC.

PLATE NO. 20

330

SAMPLE No.	NORMALIZED VALUES normalized to 20 kg. of -6 mm material GOLD grains	GOLD micrograms	CHARACTER SAMPLE Au ppb 5	GOLD RATING
M 8	2	3	3	2
M 78	3	16	3	7
M 79	3	128	3	52
M 80	0	5	3	1
M 90	3	14	3	8
M 91	0	1	3	0
M 106	6	89	19	22
M 107	5	40	3	12
MRL 62	1	16	3	4
MRL 63	0	4	3	1
MRL 64	5	95	7	26
MRL 65	0	23	3	5
MRL 66	0	7	3	2
MRL 67	0	1	3	0
MRE 2	1	19	3	5
MRE 3	3	3	3	2
MRE 21	6	24	3	6
MRE 22	1	3	3	1
MRE 23	3	54	15	13
MRE 24	4	14	3	6
MRE 25	3	35	17	11
MRE 26	7	220	6	80
MRE 28	0	58	3	12
MRE 29	4	30	15	9



GEOLOGY

LEGEND

PROTEROZOIC

- 15 Mafic-Ultramafic Rocks
- 14 Late Sediments (Sibley Gp.)
- 13 Early Sediments (Animikie Gp.)

ARCHEAN

- 12 Granodiorite - Granite (a) early (b) late
- 11 Diorite - Granodiorite (a) early (b) late
- 10 Diorite - Nepheline Syenite
- 9 Felsic Hypabyssal Rocks (QFP)
- 8 Mafic - Ultramafic Intrusive Rocks
- 7 Clastic Sediments (Timiskaming type) includes alkalic - calcalkalic volcanics
- 6 Migmatites
- 5 Metasediments (a) coarse clastic (b) fine clastic (c) chert - iron formation
- 4 Intermediate - Felsic Metavolcanics (a) rhyolite - rhyodacite (b) dacite - andesite (c) fragmental
- 3 Mafic - Intermediate Metavolcanics (a) pillowed (b) fragmental
- 2 Ultramafic Metavolcanics
- 1 Clastic Metasediments (early platform sequences)

SYMBOLS

outcrop (sub-outcrop)
contact (assumed)
fault
lineament
bedding (dip)
pillow (top facing)
foliation
shearing
lineation
syncline
anticline
glacial striae
mineral occurrence
pit, trench
shaft
claim post

GEOPHYSICS

Magnetic Anomaly
airborne
ground
magnetic low

Electromagnetic Anomaly
airborne (single line)
ground

VLF - EM Anomaly
airborne
ground

GEOCHEMISTRY

till
soil
rock

MINERAL OCCURRENCES

(1) Golden Star
(2) Pacitto
(3) Isabella
(4) Ferguson
(5) Golden Crescent
(6) R.C. Cone Mine
(7) Cone Prospect
(8) Stagge
(9) Foley
(10) Bear Passage
(11) Ottertail Lake
(12) Young-Corrigan
(13) Gagne Lake
(14) Wind Bay
(15) Lockart Lake
(16) Farrington Boundary
(17) Seine Bay Fe
(18) Stang
(19) Stellar
(20) Mackenzie-Gray
(21) Dinosaur
(22) Lucky Coon
(23) Manhattan-Decca
(24) Pidgeon
(25) Shoal Lake Iron
(26) Emperor
(27) Gibson
(28) Smylie
(29) Island Bay Copper
(30) Thompson
(31) Anomaly 44A
(32) Barber Lake Base Metal
(33) Barber Lake Au
(34) Scott Island
(35) Swell Bay
(36) Tunnel Bay
(37) Moose Point
(38) Unnamed (from OGS P.293)
(30) Bad Vermillion Lake
(40) Bad Vermilion Lake 2
(41) Unnamed (from OGS P.293)
(42) Bear Pass
(43) Bear Pass 2
(44) Gagne Lake 2
(45) Ryan
(46) Seine Bay Fe 2
(47) Bliss Lake

SOURCES OF DATA

(1) OGS NOEGTS 54
(2) OGS Map P.2064 (data)
(3) OGS Map P.2202 (geol.)
(4) OGS Map P.2201 (geol.)
(5) OGS OFR 5512
(6) OGS OFR 5539 (property descriptions)
(7) OGS OFR 5334 (property descriptions)
(8) OGS MDC 16 (property descriptions)
(9) OGS GR 115 (Seine Bay, Map 2279)
(10) OGS Map P.2048 (data)
(11) OGS Map P.293 (geol.)

MAGNETIC DECLINATION :

DATE -
REVISED -

GEOLOGY INDEX

TABLEAU D'ASSEMBLAGE DU SYSTÈME NATIONAL DE RÉFÉRENCE CARTOGRAPHIQUE

52 C/14	52 C/15	52 C/16
52 C/11	52 C/10	52 C/9
52 C/6	52 C/7	52 C/8

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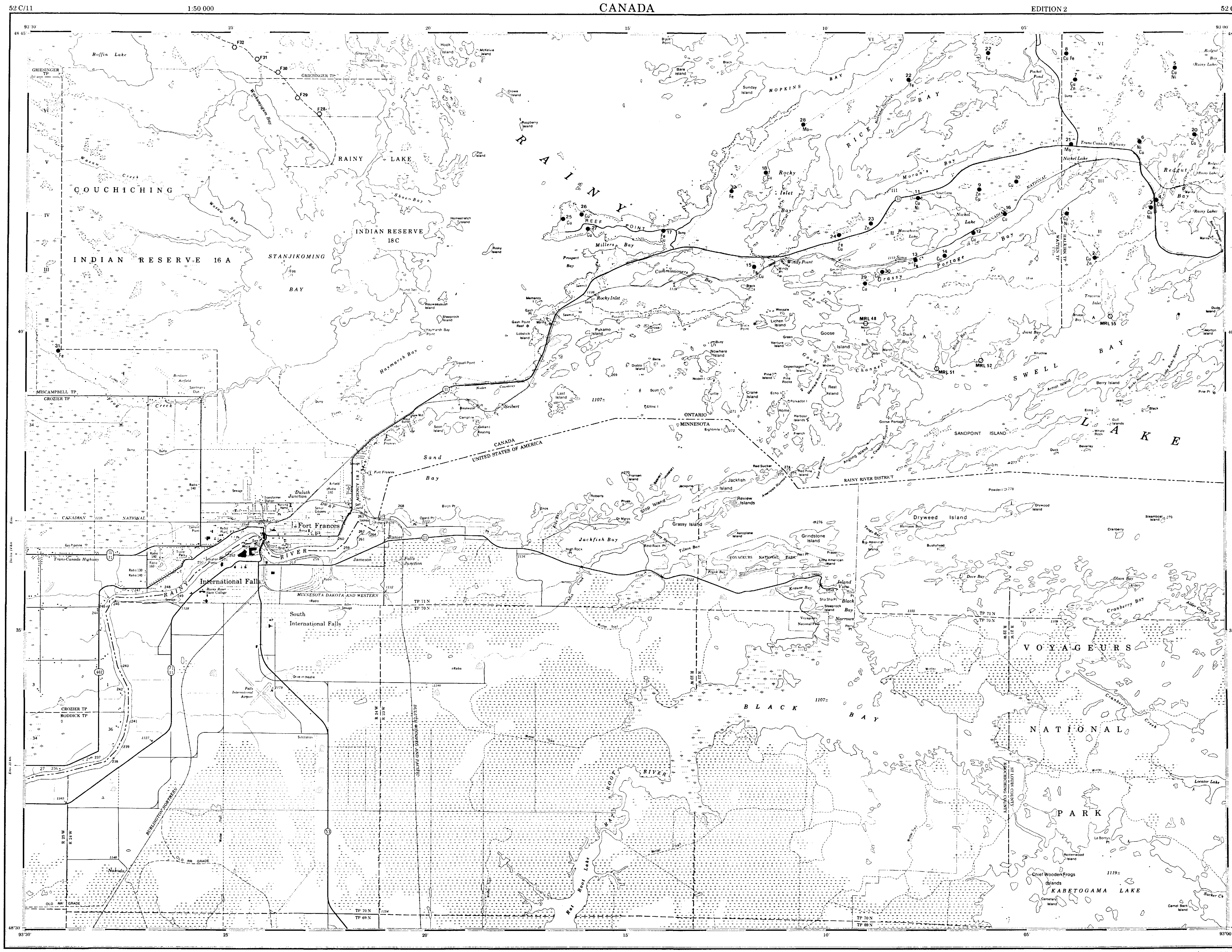
CLAIM MAP INDEX

SEINE BAY
52 C/10
EDITION 2

MINGOLD RESOURCES INC.

PLATE NO. 21

	NORMALIZED VALUES normalized to 20 kg.		CHARACTER SAMPLE	
SAMPLE No.	GOLD grains	GOLD micrograms	Au ppb 5	GOLD RATING
MRL 48	0	0	3	0
MRL 51	0	44	3	9
MRL 52	3	1	3	2
MRL 55	2	6	3	2
F 28	1	5	3	2
F 29	0	0	3	0
F 30	2	1	3	2
F 31	3	4	55	5
F 32	1	3	3	2



FORT FRANCES
CANADA - UNITED STATES OF AMERICA
Scale 1:50 000 Échelle

GEOLOGY

LEGEND

PROTEROZOIC

- 15 Mafic-Ultramafic Rocks
- 14 Late Sediments (Sibley Gp.)
- 13 Early Sediments (Animikie Gp.)

ARCHEAN

- 12 Granodiorite - Granite (a) early (b) late
- 11 Diorite - Granodiorite (a) early (b) late
- 10 Diorite - Nepheline Syenite
- 9 Felsic Hypabyssal Rocks (QFP)
- 8 Mafic - Ultramafic Intrusive Rocks
- 7 Clastic Sediments (Timiskaming type) includes alkalic - calcalkalic volcanics
- 6 Migmatites
- 5 Metasediments (a) coarse clastic (b) fine clastic (c) chert - iron formation
- 4 Intermediate - Felsic Metavolcanics (a) rhyolite - rhyodacite (b) dacite - andesite (c) fragmental
- 3 Mafic - Intermediate Metavolcanics (a) pillowed (b) fragmental
- 2 Ultramafic Metavolcanics
- 1 Clastic Metasediments (early platform sequences)

SYMBOLS

outcrop (sub-outcrop)
contact (assumed)
fault
lineament
bedding (dip)
pillow (top facing)
foliation
shearing
lineation
syncline
anticline
glacial striae
mineral occurrence
pit, trench
shaft
claim post

GEOPHYSICS

Magnetic Anomaly
airborne
ground
magnetic low

Electromagnetic Anomaly
airborne (single line)
ground

VLF - EM Anomaly
airborne
ground

GEOCHEMISTRY

till
soil
rock

MINERAL OCCURRENCES

(1) Northrock
(2) Traverse Inlet
(3) M. Hupchuck
(4) Mironsky
(5) Redgut Bay
(6) Belacoma
(7) Pocket Pond
(8) Noranda Pocket
(9) McTavish
(10) Paramaque
(11) Daley-Galbraith
(12) Nickel Lake
(13) Wallace
(14) Sims Station
(15) Brunette
(16) Weiss Copper
(17) Stanol Prospect
(18) Rocky Islet Bay
(19) Bear Pass Iron
(20) Drawbridge
(21) Highway 11 Mo
(22) Rice Bay
(23) Moosehorn
(24) Kotnick
(25) Reef Point
(26) Croome
(27) Miller's Bay
(28) Hopkin's Bay
(29) Unnamed (from OGS P.293)
(30) Unnamed (from OGS P.293)
(31) Frog Creek
(32) Rocky Islet Bay

SOURCES OF DATA

(1) OGS NOEGTS 53
(2) OGS OFR 5512
(3) OGS OFR 5539
(4) OGS GR 115 (Rice Bay Map 2278)
(5) OGS GR 107 (Fort Frances, Map 2263)
(6) OGS Map P.2032 (data)
(7) OGS Map P.3137 (Quaternary geol.)

MAGNETIC DECLINATION :

DATE -
REVISED -

GEOLOGY INDEX

CLAIM MAP INDEX

FORT FRANCES
52 C/11
EDITION 2

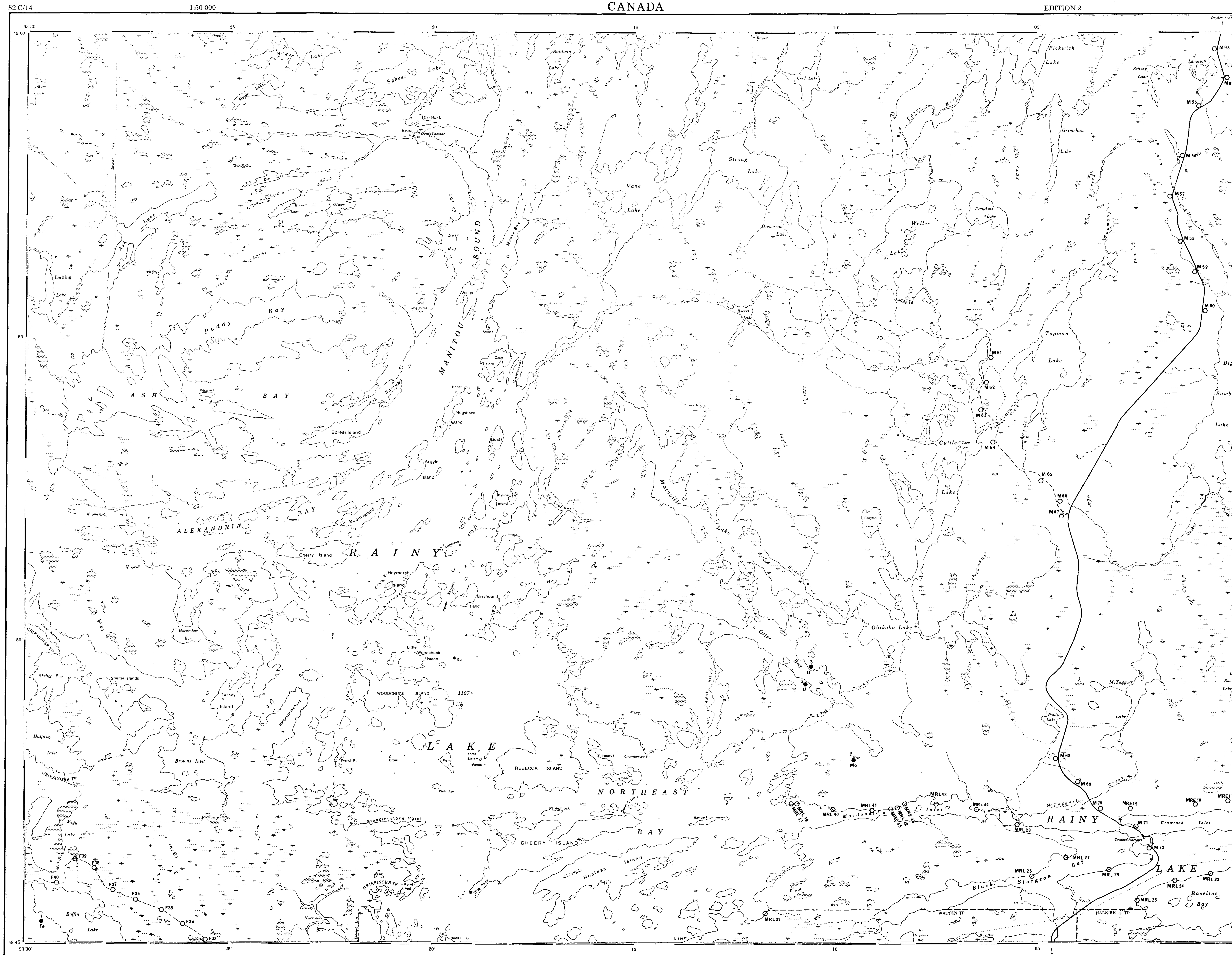
MINGOLD RESOURCES INC.

PLATE NO. 22

350

SAMPLE No.	NORMALIZED VALUES normalized to 20 kg. of -6 mm material GOLD grains	GOLD micrograms	CHARACTER SAMPLE Au ppb 5	[illegible]
M 55	3	20	3	1
M 56	6	4	3	4
M 57	0	16	3	3
M 58	5	21	3	6
M 59	3	2	3	2
M 60	4	7	3	4
M 61	2	3	3	2
M 62	8	18	3	9
M 63	5	16	3	5
M 64	0	0	3	0
M 65	3	14	5	4
M 66	0	4	3	1
M 67	2	46	3	10
M 68	5	13	3	6
M 69	0	52	3	11
M 70	2	3	3	4
M 71	1	2	3	5
M 72	0	59	3	12
M 92	2	17	3	5
[illegible]	2	4	3	2
MRL 23	3	166	3	49
MRL 24	4	1	3	2
MRL 25	2	4	3	2
MRL 26	3	16	3	6
MRL 27	4	1	3	3
MRL 28	1	0	5	1
MRL 29	0	1	3	0
MRL 37	1	8	3	4
MRL 39	6	72	3	18
MRL 40	4	5	3	3
MRL 41	0	2	3	0
MRL 42	2	89	3	20
MRL 43	4	17	5	4
MRL 44	1	18	3	5
MRE 17	0	5	3	1
MRE 18	2	36	3	8
MRE 19	0	8	3	2
MRE 43	1	18	3	8
MRE 45	0	31	17	7
MRE 46	0	10	3	2
F 33	0	25	3	5
F 34	1	14	3	7
F 35	0	3	3	1
F 36	4	27	3	11
F 37	1	6	3	[illegible]
F 38	0	3	3	1
F 39	2	4	3	2
F 40	0	1	3	0

52 C/14 1:50 000 CANADA EDITION 2 52 C/14



GEOLOGY

LEGEND

PROTEROZOIC

- 15 Mafic-Ultramafic Rocks
- 14 Late Sediments (Sibley Gp.)
- 13 Early Sediments (Animikie Gp.)

ARCHEAN

- 12 Granodiorite - Granite (a) early (b) late
- 11 Diorite - Granodiorite (a) early (b) late
- 10 Diorite - Nepheline Syenite
- 9 Felsic Hypabyssal Rocks (QFP)
- 8 Mafic - Ultramafic Intrusive Rocks
- 7 Clastic Sediments (Timiskaming type) includes alkalic - calcalkalic volcanics
- 6 Migmatites
- 5 Metasediments (a) coarse clastic (b) fine clastic (c) chert - iron formation
- 4 Intermediate - Felsic Metavolcanics (a) rhyolite - rhyodacite (b) dacite - andesite (c) fragmental
- 3 Mafic - Intermediate Metavolcanics (a) pillowed (b) fragmental
- 2 Ultramafic Metavolcanics
- 1 Clastic Metasediments (early platform sequences)

SYMBOLS

- outcrop (sub-outcrop)
- contact (assumed)
- fault
- lineament
- bedding (dip)
- pillow (top facing)
- foliation
- shearing
- lineation
- syncline
- anticline
- glacial striae
- mineral occurrence
- pit, trench
- shaft
- claim post

GEOPHYSICS

Magnetic Anomaly
- airborne
- ground
- magnetic low

Electromagnetic Anomaly
- airborne (single line)
- ground

VLF - EM Anomaly
- airborne
- ground

GEOCHEMISTRY

- till
- soil
- rock

MINERAL OCCURRENCES

(1) Boffin Lake
(2) Otter Bay Mo
(3) Otter Bay U (OGS P.293)

SOURCES OF DATA

(1) OGS NOBGTS 53
(2) OGS OFR 5512
(3) OGS GR 109 (Otukamamoan, Map 2266)
(4) OGS GR 115 (Rice Bay, Map 2278)
(5) OGS GR 107 (Fort Frances, Map 2263)
(6) OGS Map P.2037 (data)
(7) OGS Map P.3138 (Quaternary geol.)

MAGNETIC DECLINATION :

DATE -
REVISED -

GEOLOGY INDEX

CLAIM MAP INDEX

INDEX TO ADJOINING MAPS OF THE NATIONAL TOPOGRAPHIC SYSTEM

MAINVILLE LAKE

RAINY RIVER DISTRICT
ONTARIO
Scale 1:50 000 Échelle

CONVERSION SCALE FOR ELEVATIONS / ÉCHELLE DE CONVERSION DES ALTITUDES

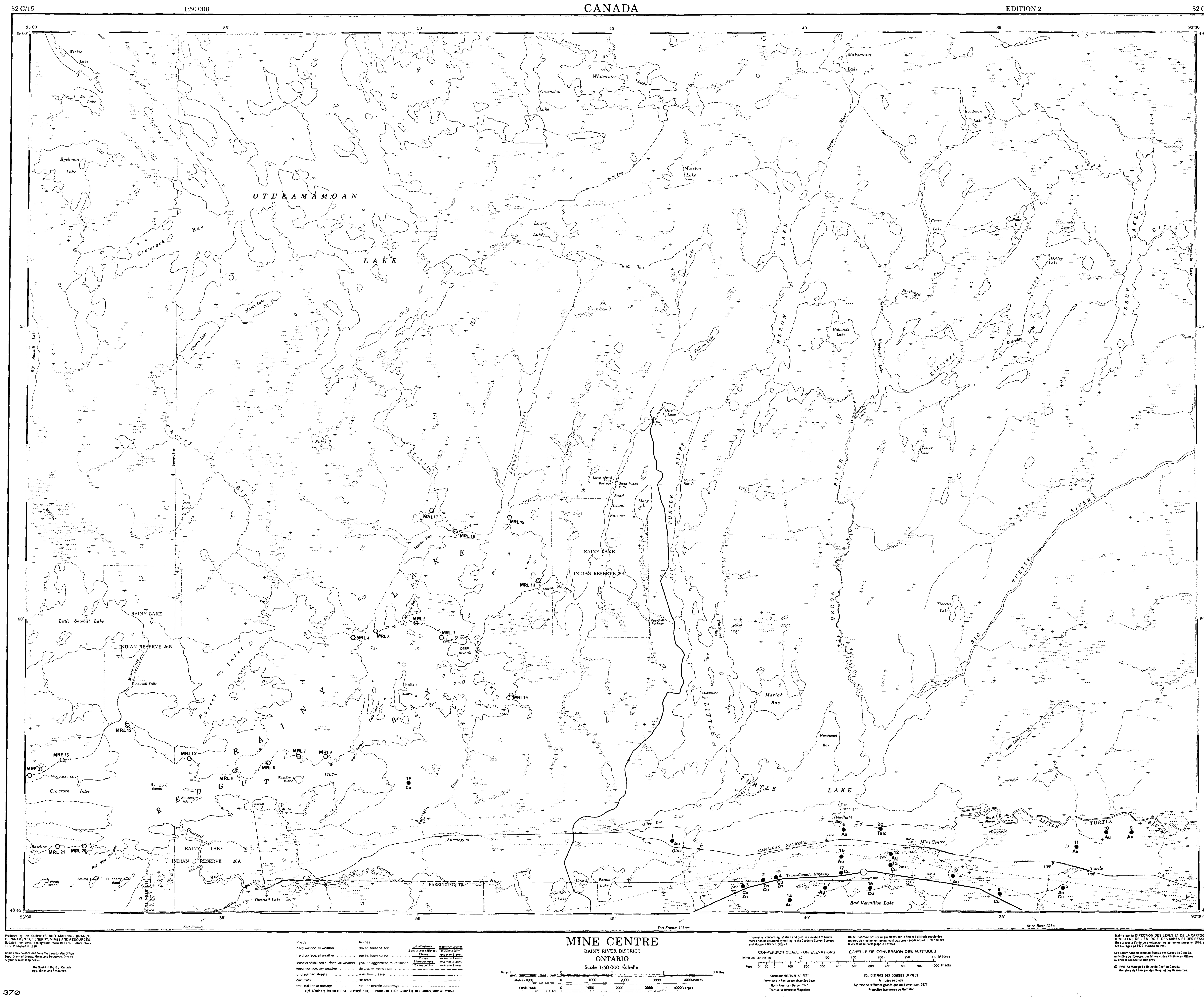
MAINVILLE LAKE
52 C/14
EDITION 2

MINGOLD RESOURCES INC.

PLATE NO. 23

360

SAMPLE No.	NORMALIZED VALUES normalized to 20 kg. of -6 mm material GOLD grains	GOLD micrograms	CHARACTER SAMPLE Au ppb 5	GOLD RATING
MRL 1	5	1	3	4
MRL 2	5	3	3	4
MRL 3	1	1	3	1
MRL 4	0	0	3	0
MRL 6	0	5	3	1
MRL 7	2	0	3	1
MRL 8	1	0	3	1
MRL 9	6	3	3	6
MRL 10	0	1	3	0
MRL 12	1	1	3	1
MRL 13	0	1	3	0
MRL 15	0	0	3	0
MRL 16	2	0	3	2
MRL 17	0	24	3	5
MRL 19	2	13	3	6
MRL 20	0	3	3	1
MRL 21	0	0	3	0
MRE 15	3	0	3	2
MRE 16	0	6	3	1



GEOLOGY

LEGEND

PROTEROZOIC

- 15 Mafic-Ultramafic Rocks
- 14 Late Sediments (Sibley Gp.)
- 13 Early Sediments (Animikie Gp.)

ARCHEAN

- 12 Granodiorite - Granite (a) early (b) late
- 11 Diorite - Granodiorite (a) early (b) late
- 10 Diorite - Nepheline Syenite
- 9 Felsic Hypabyssal Rocks (QFP)
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- 7 Clastic Sediments (Timiskaming type) includes alkalic - calcalkalic volcanics
- 6 Migmatites
- 5 Metasediments (a) coarse clastic (b) fine clastic (c) chert-iron formation
- 4 Intermediate - Felsic Metavolcanics (a) rhyolite - rhyodacite (b) dacite - andesite (c) fragmental
- 3 Mafic - Intermediate Metavolcanics (a) pillowed (b) fragmental
- 2 Ultramafic Metavolcanics
- 1 Clastic Metasediments (early platform sequences)

SYMBOLS

- outcrop (sub-outcrop)
- contact (assumed)
- fault
- lineament
- bedding (dip)
- pillow (top facing)
- foliation
- shearing
- lineation
- syncline
- anticline
- glacial striae
- mineral occurrence
- pit, trench
- shaft
- claim post

GEOPHYSICS

Magnetic Anomaly
- airborne
- ground
- magnetic low

Electromagnetic Anomaly
- airborne (single line)
- ground

VLF-EM Anomaly
- airborne
- ground

GEOCHEMISTRY

- till
- soil
- rock

MINERAL OCCURRENCES

(1) Olive
(2) Port Arthur Copper Mine
(3) Rhonda-Satellite
(4) Stratmat
(5) Turtle Tank
(6) Saundary
(7) South Vermilion
(8) Blondeau-Merryth
(9) E. Turtle River
(10) W. Turtle River
(11) Turtle Siding
(12) McMillan
(13) Hickerson
(14) Stone
(15) Amal Rare Earth
(16) Corrigan
(17) Mathieu
(18) Parry Strait
(19) Unnamed (from OGS Map P.2202)
(20) Seine River

SOURCES OF DATA

(1) OGS NOEGTS 54
(2) OGS Map P.2202 (geol.)
(3) OGS OFR 5512
(4) OGS OFR 5539 (prop. descriptions)
(5) OGS OFR 5334 (prop. descriptions)
(6) OGS MDC 16 (prop. descriptions)
(7) OGS GR 115 (Seine Bay, Map 2279)
(8) OGS GR 109 (Otukamamoan L., Map 2266)
(9) OGS Map P.965 (geol.)

MAGNETIC DECLINATION :

DATE -
REVISED -

GEOLOGY INDEX

CLAIM MAP INDEX

TABLEAU D'ASSEMBLAGE DU SYSTÈME NATIONAL DE RÉFÉRENCE CARTOGRAPHIQUE

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52 C/14	52 C/15	52 C/16
52 C/11	52 C/10	52 C/9

INDEX TO ADJOINING MAPS OF THE NATIONAL TOPOGRAPHIC SYSTEM

MINE CENTRE
52 C/15
EDITION 2

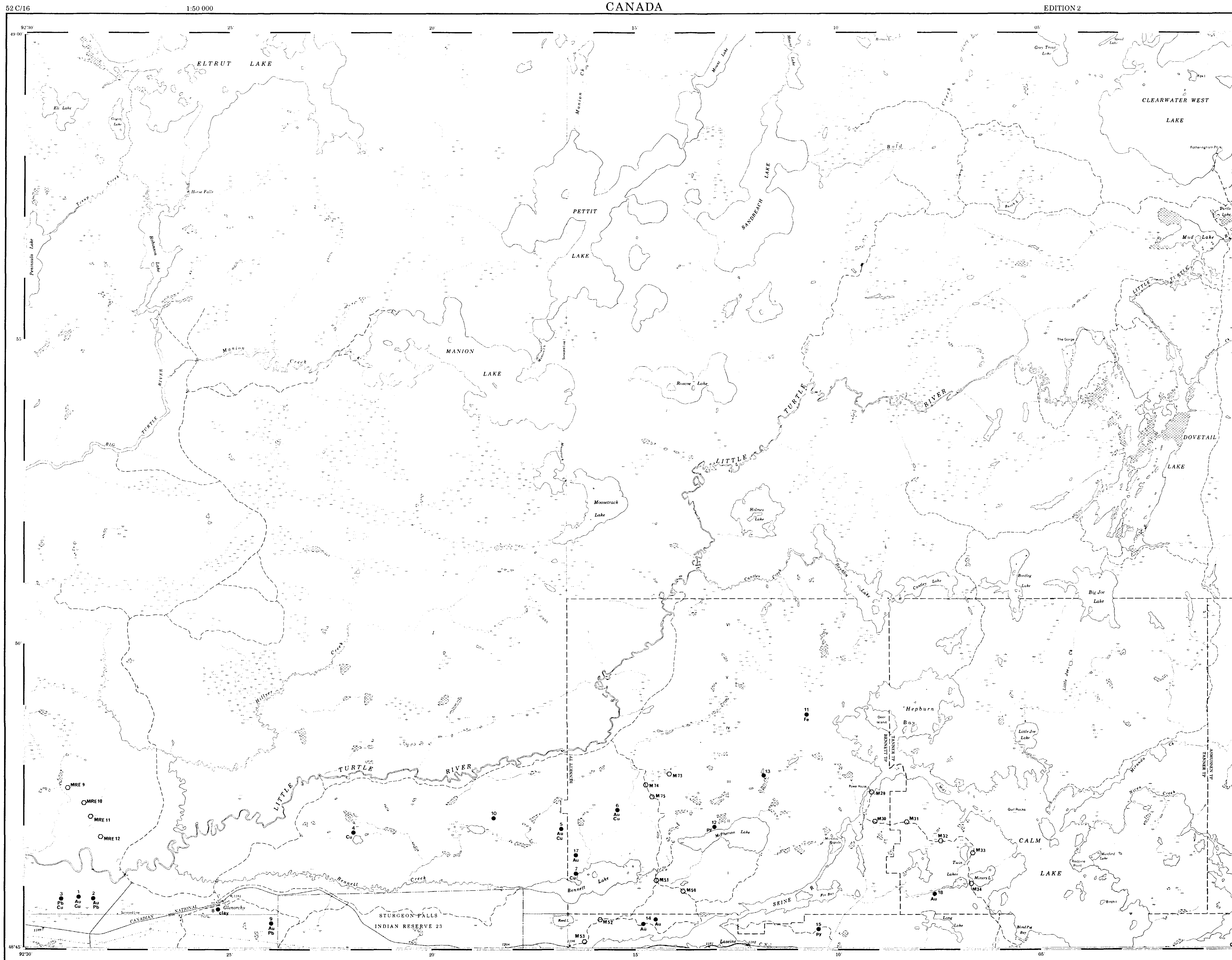
MINGOLD RESOURCES INC.

PLATE NO. 24

370

SAMPLE No.	NORMALIZED VALUES normalized to 20 kg. of -6 mm material GOLD grains	GOLD micrograms	CHARACTER SAMPLE Au ppb 5	GOLD RATING
M 29	2	3	3	3
[illegible]	3	4	3	4
M 31	7	31	6	19
M 32	1	19	3	4
M 33	0	1	3	0
M 34	1	6	6	2
M 50	5	2	3	6
M 51	3	4	3	3
M 52	3	5	3	4
M 53	1	21	3	5
M 73	2	25	3	8
M 74	0	292		58
M 75	2	12	3	3
MRE 9	3	17	3	5
MRE 10	0	77	3	15
MRE 11	3	20	432	19
MRE 12	1	14	3	5

52 C/16 1:50 000 CANADA EDITION 2 52 C/16



MANION LAKE

RAINY RIVER DISTRICT
ONTARIO
Scale 1:50 000 Échelle

LEGEND

GEOLOGY

PROTEROZOIC

- 15 Mafic - Ultramafic Rocks
- 14 Late Sediments (Sibley Gp.)
- 13 Early Sediments (Animikie Gp.)

ARCHEAN

- 12 Granodiorite - Granite (a) early (b) late
- 11 Diorite - Granodiorite (a) early (b) late
- 10 Diorite - Nepheline Syenite
- 9 Felsic Hypabyssal Rocks (QFP)
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- 5 Metasediments (a) coarse clastic (b) fine clastic (c) chert - iron formation
- 4 Intermediate - Felsic Metavolcanics (a) rhyolite - rhyodacite (b) dacite - andesite (c) fragmental
- 3 Mafic - Intermediate Metavolcanics (a) pillowed (b) fragmental
- 2 Ultramafic Metavolcanics
- 1 Clastic Metasediments (early platform sequences)

SYMBOLS

- outcrop (sub-outcrop)
- contact (assumed)
- fault
- lineament
- bedding (dip)
- pillow (top facing)
- foliation
- shearing
- lineation
- syncline
- anticline
- glacial striae
- mineral occurrence
- pit, trench
- shaft
- claim post

GEOPHYSICS

Magnetic Anomaly
- airborne
- ground
- magnetic low

Electromagnetic Anomaly
- airborne (single line)
- ground

VLF - EM Anomaly
- airborne
- ground

GEOCHEMISTRY

- till
- soil
- rock

MINERAL OCCURRENCES

(1) Alice A. Mine
(2) Emma Abbott
(3) Gold Bug
(4) Young
(5) Cedar Lake
(6) Independence
(7) Bennett Lake
(8) Glenorchy
(9) Sutherland
(10) "818" Glory Hole
(11) Bennett Tanner
(12) McPherson Lake
(13) Unnamed
(14) Unnamed
(15) Unnamed
(16) Law
(17) Red Cedar
(18) Calm Lake

SOURCES OF DATA

(1) OGS MOBUTS 54
(2) OGS OFR 5512
(3) OGS OFR 5539
(4) OGS OFR 5334
(5) OGS MDC 16
(6) OGS GR 226 (Calm Lake, Map 2467)
(7) OGS Map P.2405 (geol.)
(8) OGS Map P.965
(9) OGS Vol. 69, Pt.4
(10) OGS GDIP 468 (SE)
(11) OGS GDIP 469 (SW)
(12) OGS Map P.2157 (data)

MAGNETIC DECLINATION :

DATE -
REVISED -

GEOLOGY INDEX

CLAIM MAP INDEX

MANION LAKE
52 C/16
EDITION 2

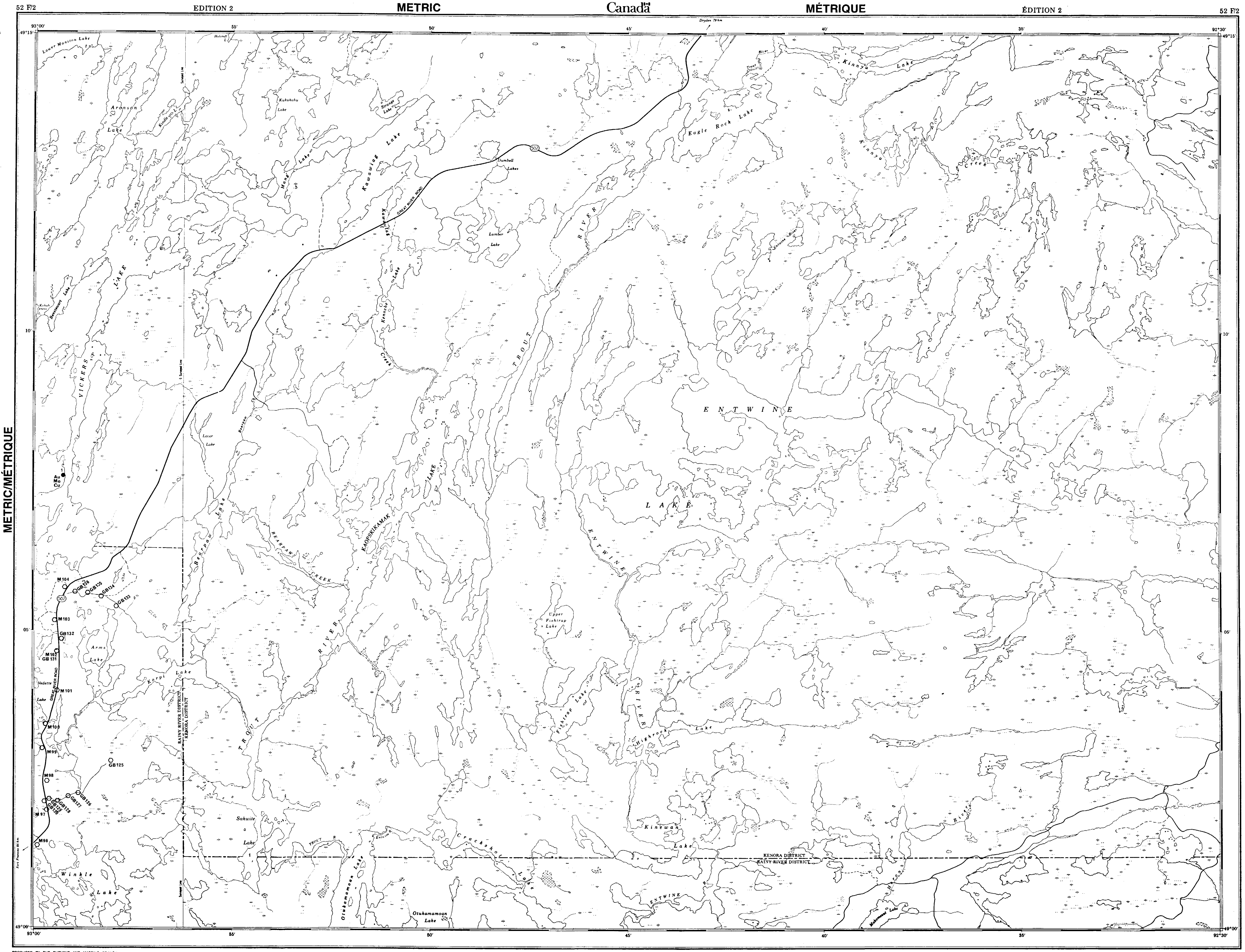
MINGOLD RESOURCES INC.

PLATE NO. 25

380

SAMPLE No.	NORMALIZED VALUES normalized to 20 kg. of -6 mm material GOLD grains	GOLD micrograms	CHARACTER SAMPLE Au ppb 5	GOLD RATING
M 96	0	1	3	0
M 97	1	104	3	22
M 98	1	15	3	4
M 99	0	5	3	1
M 100	3	5	3	6
M 101	0	3	3	1
M 102	3	339	12	69
M 103	2	3	3	3
M 104	0	7	3	1
GB 125	0	2	0	0
GB 126	1	6	0	2
GB 127	2	5	0	2
GB 128	5	25	0	9
GB 129	3	10	0	7
GB 130	4	35	8	12
GB 131	7	100	0	27
GB 132	1	134	0	37
GB 133	4	0	0	1
GB 134	1	1	0	1
GB 135	0	13	0	3
GB 136	1	1	0	1

52 F/2 EDITION 2 **METRIC** Canada **MÉTRIQUE** ÉDITION 2 52 F/2



GEOLOGY

LEGEND

PROTEROZOIC

- 15 Mafic - Ultramafic Rocks
- 14 Late Sediments (Sibley Gp.)
- 13 Early Sediments (Animikie Gp.)

ARCHEAN

- 12 Granodiorite - Granite (a) early (b) late
- 11 Diorite - Granodiorite (a) early (b) late
- 10 Diorite - Nepheline Syenite
- 9 Felsic Hypabyssal Rocks (QFP)
- 8 Mafic - Ultramafic Intrusive Rocks
- 7 Clastic Sediments (Timiskaming type) includes alkalic - calcalkalic volcanics
- 6 Migmatites
- 5 Metasediments (a) coarse clastic (b) fine clastic (c) chert - iron formation
- 4 Intermediate - Felsic Metavolcanics (a) rhyolite - rhyodacite (b) dacite - andesite (c) fragmental
- 3 Mafic - Intermediate Metavolcanics (a) pillowed (b) fragmental
- 2 Ultramafic Metavolcanics
- 1 Clastic Metasediments (early platform sequences)

SYMBOLS

- outcrop (sub-outcrop)
- contact (assumed)
- fault
- lineament
- bedding (dip)
- pillow (top facing)
- foliation
- shearing
- lineation
- syncline
- anticline
- glacial striae
- mineral occurrence
- pit, trench
- shaft
- claim post

GEOPHYSICS

Magnetic Anomaly
- airborne
- ground
- magnetic low

Electromagnetic Anomaly
- airborne (single line)
- ground

VLF - EM Anomaly
- airborne
- ground

GEOCHEMISTRY

- till
- soil
- rock

MINERAL OCCURRENCES

(1) Smooth Rock Lake

SOURCES OF DATA

(1) OGS Map P. 3179

MAGNETIC DECLINATION :

DATE -
REVISED -

GEOLOGY INDEX

CLAIM MAP INDEX

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ENTWINE LAKE
ONTARIO

Scale 1:50 000 Échelle

CONVERSION SCALE FOR ELEVATIONS
ÉCHELLE DE CONVERSION DES ALTITUDES

CONTOUR INTERVAL 10 METRES
ÉQUIDISTANCE DES COURBES 10 MÈTRES

ENTWINE LAKE
52 F/2
EDITION 2 ÉDITION

Energy, Mines and Resources Canada
Énergie, Mines et Ressources Canada

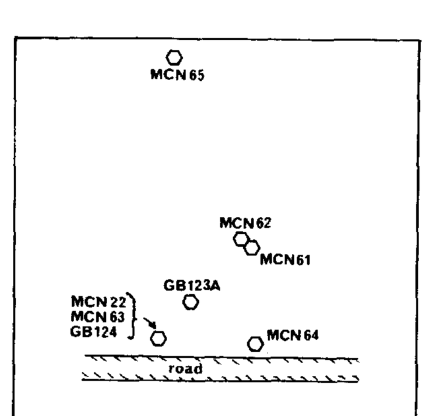
MINGOLD RESOURCES INC.

PLATE NO. 26

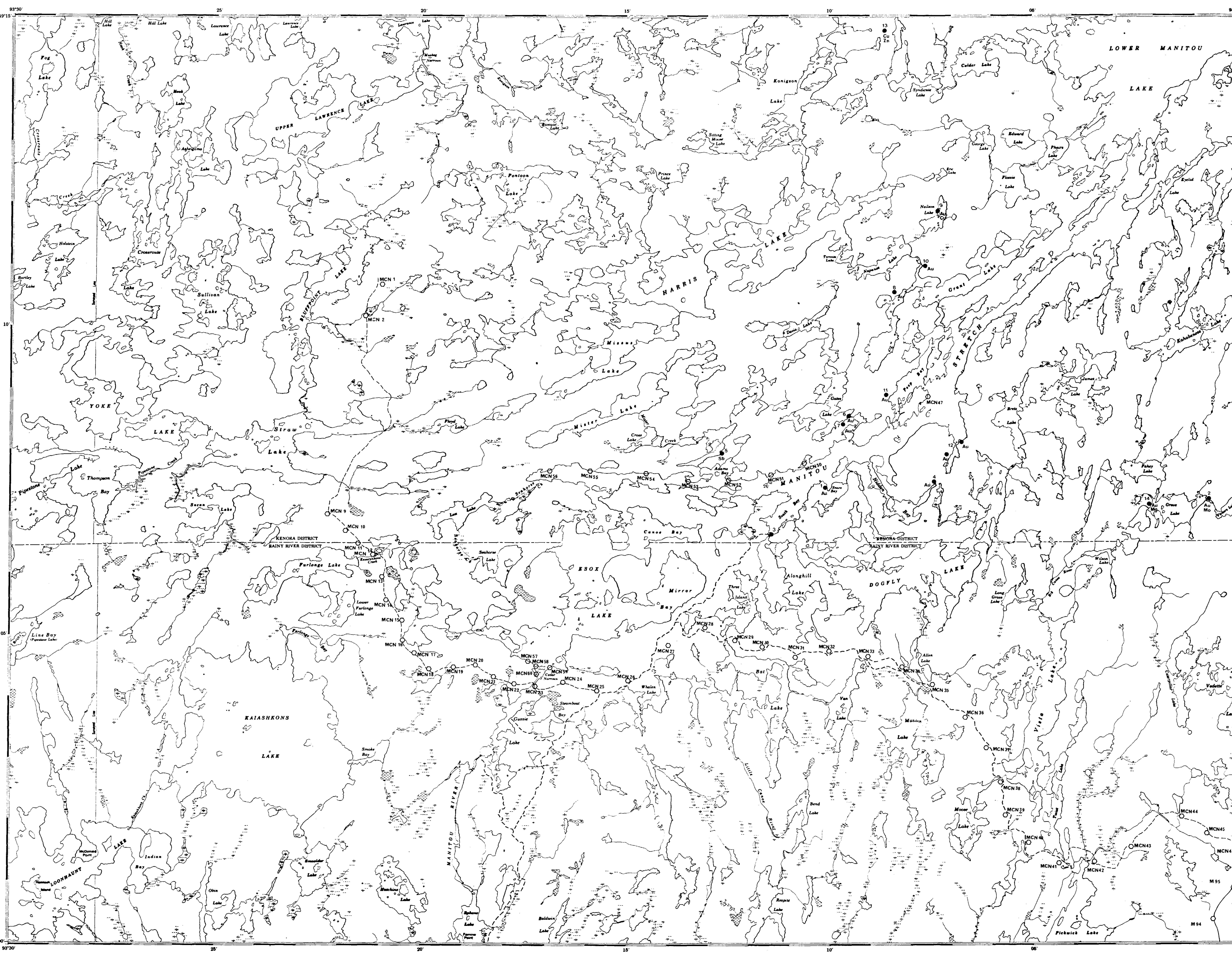
390

52F04NE9058 63.6181 ADRIAN

SAMPLE No.	NORMALIZED VALUES normalized to 20 kg. of -6 mm material GOLD grains	GOLD micrograms	CHARACTER SAMPLE Au ppb 5	GOLD RATING
M 94	0	4	3	1
M 95	1	11	3	3
MCN 1	1	4	7	3
MCN 2	1	5	3	1
MCN 9	3	4	3	4
MCN 10	7	15	3	11
MCN 11	2		3	2
MCN 12	4	10	3	6
MCN 13	2	4	3	3
MCN 14	3	8	3	4
MCN 15	1	7	3	3
MCN 16	2	4	3	1
MCN 17	2	5	3	2
MCN 18	7	14	3	13
MCN 19	1	4	3	3
MCN 20	5	3	3	3
MCN 21	2	13	3	4
MCN 22	53	565	50	136
MCN 23	4	2	3	3
MCN 24	4	50	3	13
MCN 25	4	18	8	6
MCN 26	1	9	3	3
MCN 27	6	7	3	8
MCN 28	9	9	3	6
MCN 29	5	22	3	8
MCN 30	0	12	3	2
MCN 31	18	27	3	20
MCN 32	0	3	3	1
MCN 33	3	13	3	7
MCN 34	7	11	3	6
MCN 35	3	4	3	3
MCN 36	4	11	3	6
MCN 37	3	11	3	5
MCN 38	10	13	3	8
MCN 39	2	4	3	3
MCN 40	6	10	3	6
MCN 41	5	15	3	5
MCN 42	3	13	3	5
MCN 43	3	5	3	3
MCN 44	5	3	3	4
MCN 45	0	6	3	1
MCN 46	3	8	3	3
MCN 47	0	1	3	0
MCN 50	7	117	3	39
MCN 51	4	98	3	24
MCN 52	7	355	3	116
MCN 53	4	30	3	10
MCN 54	17	87	3	29
MCN 55	2	25	3	6
MCN 56	10	13	3	5
MCN 57	3	37	3	8
MCN 58	2	10	3	6
MCN 59	1	10	3	4
MCN 60	2	2	3	1
MCN 61	13	19	3	10
MCN 62	2	3	3	2
MCN 63	9	239		51
MCN 64	19	7	3	11
MCN 65	12	9	3	9
GB 123A	6	26	0	8
GB 124	52	539	0	124



DETAIL OF "MCN22" AREA



HARRIS LAKE
ONTARIO

Scale 1:50,000 Échelle

GEOLOGY

LEGEND

PROTEROZOIC

- 15 Mafic-Ultramafic Rocks
- 14 Late Sediments (Sibley Gp.)
- 13 Early Sediments (Animikie Gp.)

ARCHEAN

- 12 Granodiorite - Granite (a) early (b) late
- 11 Diorite - Granodiorite (a) early (b) late
- 10 Diorite - Nepheline Syenite
- 9 Felsic Hypabyssal Rocks (QFP)
- 8 Mafic - Ultramafic Intrusive Rocks
- 7 Clastic Sediments (Timiskaming type) includes alkalic - calcalkalic volcanics
- 6 Migmatites
- 5 Metasediments (a) coarse clastic (b) fine clastic (c) chert-iron formation
- 4 Intermediate - Felsic Metavolcanics (a) rhyolite - rhyodacite (b) dacite - andesite (c) fragmental
- 3 Mafic - Intermediate Metavolcanics (a) pillowed (b) fragmental
- 2 Ultramafic Metavolcanics
- 1 Clastic Metasediments (early platform sequences)

SYMBOLS

outcrop (sub-outcrop), contact (assumed), fault, lineament, bedding (dip), pillow (top facing), foliation, shearing, lineation, syncline, anticline, glacial striae, mineral occurrence, pit, trench, shaft, claim post

GEOPHYSICS

Magnetic Anomaly: airborne, ground, magnetic low

Electromagnetic Anomaly: airborne (single line), ground

VLF-EM Anomaly: airborne, ground

GEOCHEMISTRY

till, soil, rock

MINERAL OCCURRENCES

(1) Cracker Jack Mine
(2) Grave Lake
(3) Manitou Stretch Graphite
(4) Spactor Res.
(5) Austin
(6) Birch Bay Gold Mines
(7) Gates Lake
(8) Gold Standard G340
(9) Gold Standard HW 271
(10) Saley Camp
(11) Peep Bay
(12) Sorry Mac
(13) Syndicate Lake
(14) Grave West

(EAST PORTION ONLY)

SOURCES OF DATA

(1) OGS Maps P.3178, 3179 (geol.)
(2) OGS GDIF 321 (52F/03 SE)
(3) OGS GDIF 320 (52F/03 NE)

MAGNETIC DECLINATION :

DATE -
REVISED -

GEOLOGY INDEX

CLAIM MAP INDEX

HARRIS LAKE
52 F/3
EDITION 1

MINGOLD RESOURCES INC.

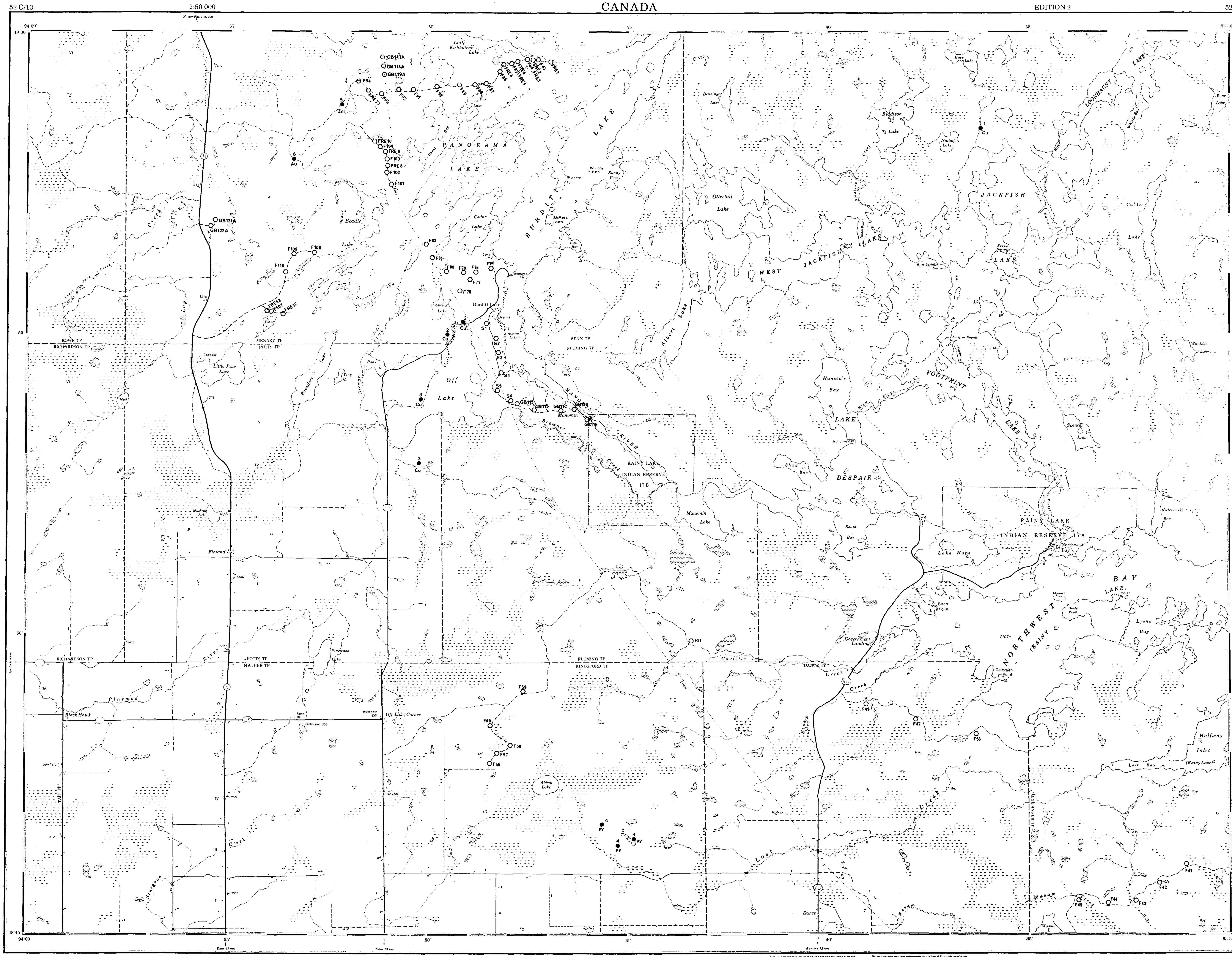
PLATE NO. 27

400

SAMPLE No.	NORMALIZED VALUES normalized to 20 kg. of -6 mm material: GOLD grains	GOLD micrograms	CHARACTER SAMPLE Au ppb 5	GOLD RATING
F 17	4	39	3	13
F 18	2	5	3	3
F 19	3	19	3	9

410

SAMPLE No.	NORMALIZED VALUES normalized to 20 kg. of -6 mm material GOLD grains	GOLD micrograms	CHARACTER SAMPLE Au ppb 5	GOLD RATING
F 41	1	8	3	2
F 42	2	5	3	4
F 43	6	9	3	5
F 44	2	4	3	4
F 45	0	2	3	1
F 47	3	12	3	5
F 49	8	47	3	13
F 51	5	26	3	8
F 53	3	4	3	2
F 56	2	43	3	15
F 57	0	5	3	1
F 58	2	20	3	6
F 59	2	15	3	5
F 60	1	0	3	1
F 75	3	8	3	5
F 76	33	1	3	3
F 77	0	5	8	1
F 78	1	6	3	2
F 79	2	30	3	12
F 80	2	3	3	1
F 81	5	27	3	10
F 82	3	10	3	5
F 83	3	35	3	10
F 84	10	13	3	9
F 85	8	7	3	11
F 86	3	27	3	13
F 87	4	22	3	7
F 88	0	10	3	2
F 89	2	23	3	17
F 90	1	10	3	3
F 91	4	2	3	16
F 92	2	6	3	3
F 93	4	11	3	6
F 94	5	68	3	28
F 101	3	29	3	7
F 102	4	5	3	4
F 103	7	2	3	5
F 104	5	32	3	12
F 107	13	25	38	18
F 108	4	15	12	7
F 109	1	3	77	4
F 110	3	4	3	4
F 111	2	5	0	2
S 1	4	4	3	3
S 2	6	12	3	8
S 3	1	3	3	2
S 4	7	10	219	11
S 5	7	14	3	9
S 6	5	12	3	6
FRE 1	1	8	3	2
FRE 2	5	27	3	11
FRE 3	3	20	3	8
FRE 4	3	9	6	7
FRE 5	11	26	3	13
FRE 6	3	20	3	6
FRE 7	7	15	3	8
FRE 8	1	188	3	39
FRE 9	0	3	3	1
FRE 10	5	18	3	12
FRE 12	3	27	3	10
FRE 13	0	13	3	3
GB 115	5	72	5	22
GB 116	1	7	7	3
GB 117	2	4	5	3
GB 118	1	32	6	11
GB 119	0	1	6	0
GB 117A	1	0	0	1
GB 118A	1	4	0	1
GB 119A	4	17	0	6
GB 121A	6	19	0	7
GB 122A	0	11	0	2



GEOLOGY

LEGEND

PROTEROZOIC

- 15 Mafic - Ultramafic Rocks
- 14 Late Sediments (Sibley Gp.)
- 13 Early Sediments (Animikie Gp.)

ARCHEAN

- 12 Granodiorite - Granite (a) early (b) late
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- 4 Intermediate - Felsic Metavolcanics (a) rhyolite - rhyodacite (b) dacite - andesite (c) fragmental
- 3 Mafic - Intermediate Metavolcanics (a) pillowed (b) fragmental
- 2 Ultramafic Metavolcanics
- 1 Clastic Metasediments (early platform sequences)

SYMBOLS

outcrop (sub-outcrop)
contact (assumed)
fault
lineament
bedding (dip)
pillow (top facing)
foliation
shearing
lineation
syncline
anticline
glacial striae
mineral occurrence
pit, trench
shaft
claim post

GEOPHYSICS

Magnetic Anomaly
airborne
ground
magnetic low

Electromagnetic Anomaly
airborne (single line)
ground

VLF - EM Anomaly
airborne
ground

GEOCHEMISTRY

till
soil
rock

MINERAL OCCURRENCES

(1) Jackfish Lake
(2) Off Lake
(3) Young
(4) Abbott
(5) Panorama
(6) Banana

SOURCES OF DATA

(1) OGS GR 107 (Fort Frances, Map 2263)
(2) OGS Map P.2163 (data)
(3) OGS NOBGTS 53
(4) OGS MDC #16
(5) OGS GR 140 (Off-Burditt, Map 2325)
(6) OGS Vol. 63, Pt.5 (Emo, Map 1954-2)

MAGNETIC DECLINATION :

DATE -
REVISED -

GEOLOGY INDEX

CLAIM MAP INDEX

NORTHWEST BAY

RAINY RIVER DISTRICT
ONTARIO
Scale 1:50 000 Échelle

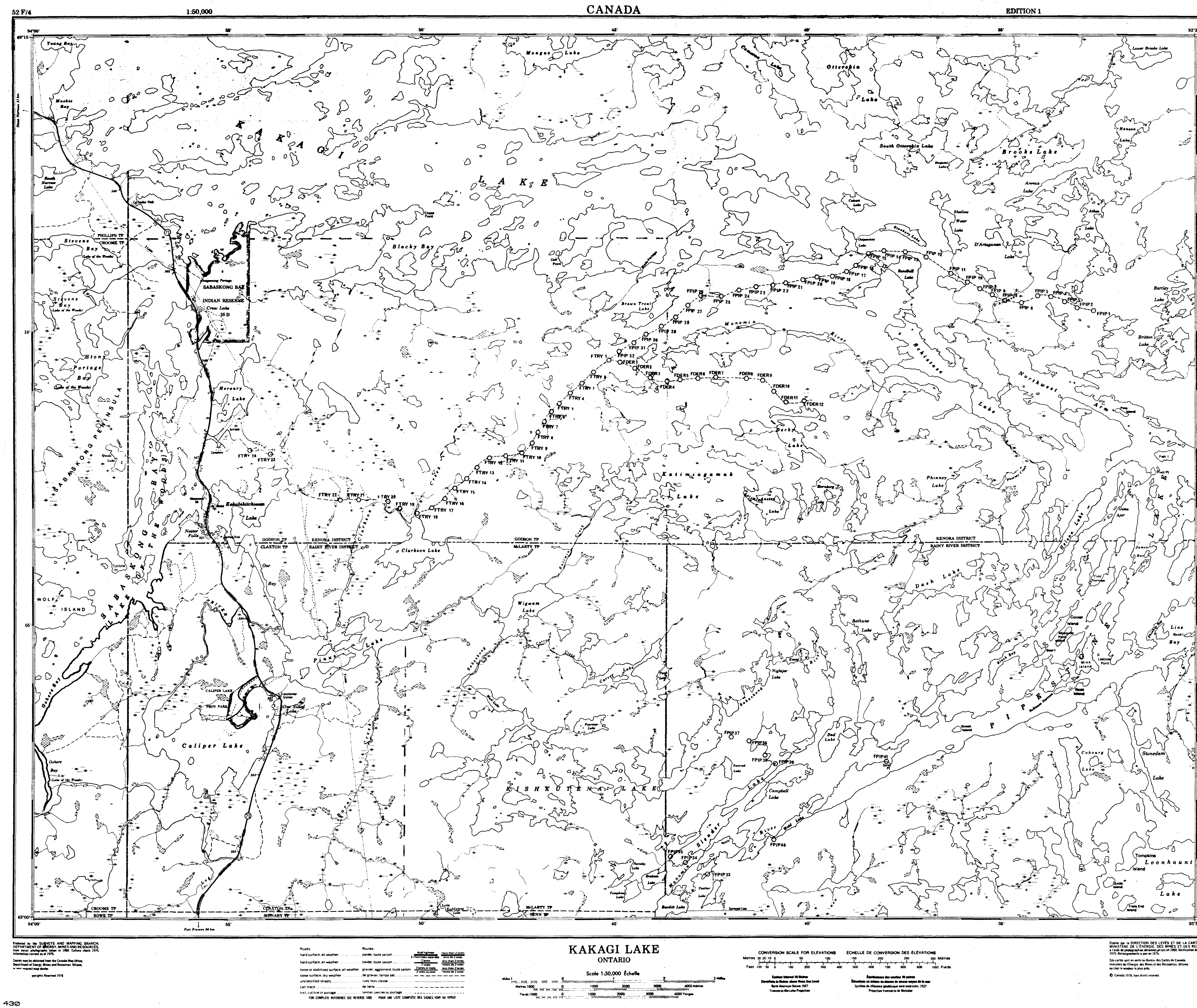
NORTHWEST BAY
52 C/13
EDITION 2

MINGOLD RESOURCES INC.

PLATE NO. 30

420

SAMPLE No.	NORMALIZED VALUES normalized to 20 kg. of -6 mm material GOLD grains	GOLD micrograms	CHARACTER SAMPLE Au ppb 5	GOLD RATING
FDER 1	3	38	3	17
FDER 2	2	13	3	5
FDER 3	3	32	3	10
FDER 4	8	30	3	13
FDER 5	4	69	3	22
FDER 6	0	2	3	0
FDER 7	5	18	3	11
FDER 8	3	1	3	2
FDER 9	8	85	71	31
FDER 10	11	14	3	12
FDER 11	2	38	3	11
FDER 12	4	40	3	11
FTRY 1	6	3	3	7
FTRY 2	9	34	3	14
FTRY 3	13	9	3	14
FTRY 4	3	4	3	6
FTRY 5	3	27	3	9
FTRY 6	5	77	3	24
FTRY 7	13	20	3	14
FTRY 8	5	160	3	57
FTRY 9	0	11	3	2
FTRY 10	7	84	11	34
FTRY 11	5	2	3	8
FTRY 12	0	4	3	1
FTRY 13	10	33	3	15
FTRY 14	8	24	65	14
FTRY 15	1	8	3	3
FTRY 16	1	5	3	2
FTRY 17	3	28	3	7
FTRY 18	9	40	12	16
FTRY 19	2	82	3	23
FTRY 20	7	18	10	6
FTRY 21	7	22	3	8
FTRY 22	0	23	3	5
FTRY 23	1	18	3	6
FTRY 24	2	55	3	19
FPIP 1	2	21	9	6
FPIP 2	2	11	3	4
FPIP 3	0	10	3	2
FPIP 4	2	53	3	15
FPIP 5	7	5	3	5
FPIP 6	1	8	3	3
FPIP 7	0	59	3	12
FPIP 8	5	5	3	10
FPIP 9	3	5	3	3
FPIP 10	2	9	3	4
FPIP 11	1	21		5
FPIP 12	7	35	3	14
FPIP 13	4	10	3	8
FPIP 14	4	40	3	12
FPIP 15	3	15	3	8
FPIP 16	7	33	3	13
FPIP 17	6	17	3	6
FPIP 18	6	6	3	11
FPIP 19	2	1	8	3
FPIP 20	2	0	3	0
FPIP 21	0	0	3	0
FPIP 22	3	22	3	7
FPIP 23	7	21	6	20
FPIP 24	5	10	3	9
FPIP 25	4	42	8	14
FPIP 26	4	11	6	4
FPIP 27	0	2	6	1
FPIP 28	2	188	3	65
FPIP 29	1	1	3	1
FPIP 30	2	0	3	0
FPIP 31	0	6	3	1
FPIP 32	3	2	3	2
FPIP 33	8	73	3	24
FPIP 34	2	3	3	3
FPIP 35	5	50	3	14
FPIP 36	25	34	11	11
FPIP 37	3	22	28	7
FPIP 38	12	12	6	10
FPIP 39	6	96	3	24
FPIP 40	10	188	3	53
FPIP 41	0	1	3	0



GEOLOGY

LEGEND

PROTEROZOIC

15 Mafic - Ultramafic Rocks
14 Late Sediments (Sibley Gp.)
13 Early Sediments (Animikie Gp.)

ARCHEAN

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(b) late
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(b) dacite - andesite
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(b) fragmental
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SYMBOLS

outcrop (sub - outcrop)
contact (assumed)
fault
lineament
bedding (top)
pillow (top facing)
foliation
shearing
lineation
syncline
anticline
glacial striae
mineral occurrence
pit, trench
shaft
claim post

GEOPHYSICS

Magnetic Anomaly
airborne
ground
magnetic low
Electromagnetic Anomaly
airborne (single line)
ground
VLF - EM Anomaly
airborne
ground

GEOCHEMISTRY

till
sed
rock

MINERAL OCCURRENCES

SOURCES OF DATA

(1) OGS GR 201 (Bethune L., Map 2430)
(2) OGS GR 194 (Schistose L., Map 2421)

MAGNETIC DECLINATION :

DATE -
REVISED -

GEOLOGY INDEX

CLAIM MAP INDEX

KAKAGI LAKE
52 F/4
EDITION 1

MINGOLD RESOURCES INC.

PLATE NO. 31

430

52F04NE9859 63.6161 ADRIAN

Table I

SHEBANDOWAN AREA

C - compactness CS - clast size
O - oxidation CA - angularity
S - stoniness

SR - sub rounded
SA - sub angular
del - delicate

BULK TILL RECONNAISSANCE PROGRAM

SAMPLE No.	LOCATION N.T.S.	BEDROCK	WEIGHT (kg) Total	+6mm Frac.	C	O	S	CS	CA	PEBBLE COUNT Volc	Int	Sed	Other	Shape	TOTAL GOLD GRAINS	<.05 mm No. Shape	.05-.1mm No. Shape	.1-.2 mm No. Shape	.2-.3 mm No. Shape	.3-.4 mm No. Shape	.4-.5 mm No. Shape	>.5 mm No. Shape	CONCENTRATE Wgt. (gm.)	Mag %	Py %	Gar %	Misc.	Ultraviolet lamp Sch	Zir	Rad	NOTES	NORMALIZED VALUES GOLD grains	GOLD microgm	Au ppb det 5
I 3	52A/05		22.5	10.1						20	80				4	2 SA		1 SA	1 SA				28.7	60		tr		Y				6	2.0	43
I 4	52A/05		29.0	10.3						40	60		Qtz		1			1 SA					31.5			tr		Y			basal till	1	3.5	105
I 5	52A/05		21.1	5.9						50	50				0										tr			Y	Y		1 Au grain ?(.3 x.1) odd colour	0	4.0	72
I 6	52A/05		25.4	8.6						40	60				5		2 SA	3 SA					26.7	50	tr				Y			6	6.1	193
I 7	52A/05		17.8	2.8						30	70				2	2 SA/SR							20.7					Y	Y			3	1.8	64
I 8	52A/05		20.7	5.1						30	70				4	1 SR		2 SA	1 SA				45.1	60	tr				Y			5	8.9	155
I 9	52A/05		24.5	6.5						40	60				0								18.1	40	5	tr		Y	Y		clay in till	0	0.3	15
I 10	52A/05		29.0	7.7						50	50				2		2						36.4	80	10	tr		Y	Y		jasper, clay in till	2	1.6	47
I 13	52B/09		26.0	4.7						20	80				0								25.3	70	10			Y	Y		clay	0	1.1	48
I 14	52B/09		23.3	6.6						10	90				1	1 SA							15.4	60	tr	15		Y	Y		basal till	1	0.7	37
I 15	52B/09		25.9	11.4						20	80				0								19.5	85	5				Y		basal till	0	0.1	3
I 16	52B/09		25.1	5.8						50	50				1			1 SR					35.1	60	30	10		Y	Y		ablation till (boulders)	1	4.5	125
I 17	52B/09		25.0	7.0						45	45		5 Qtz		2		1	1					19.0		tr			Y	Y		clay till	2	20.7	987
MG 29	52B/08		25.4	6.4						10	80		Qtz		3		1	1	1				39.9	80	10							3	11.9	285
MG 30	52B/08		26.3	7.5						50	50				1				1 del				25.2			tr		Y	Y			1	3.6	133
MG 31	52B/09	granite	26.8	11.8						20	80				2		1	1 flakey					16.7	60	5							3	2.8	127
MG 32	52B/09		25.1	2.8						40	60				1			1 SA					28.4						Y			1	4.3	171
MG 33	52B/09		23.5	9.7						50	50				1			1 del.					34.2					Y		0		1	5.0	101
MG 34	52A/05		24.3	8.4						40	60				3	1	1	1 flake					30.6	80	tr			Y		0	sandy, oxidized, basal till	4	3.2	84
MG 35	52A/05		21.8	5.7						50	50				5	3 SR	2 SA						19.5							0		6	4.3	179
MG 36	52B/08	granite	27.2	?											1	1							14.0					Y		0	ox basal/unox sandy till	1	1.9	184
MG 37	52A/05		26.7	10.0						50			50		1			1					52.0		tr						coarse fraction 50% clay	1	2.3	37
MG 38	52A/05		27.5	4.5						80	25		15		0								26.7	90	5					0	unoxidized basal till	0	16.2	701
MG 39	52A/05		26.7	8.2									Qtz		6	4 SA	1 SA	1 A					25.2	60	10	tr				0	oxidized basal till	6	18.5	680
MG 40	52A/05	volcanic	19.0	3.4						90	10				2				2 SR/SA				21.6		5			Y			3rd Au grain ? SA, proc. error	3	9.6	347
MG 41	52A/05		23.5	7.4						70	28		Qtz		2	1	1						18.7							0	may/may not be gold	2	3.9	168
MG 42	52A/05		23.5	7.0											1			1					11.5					Y		0	gold?, oxid & unoxid basal till	1	22.6	1630
MG 43	52A/12		24.8	5.5						50	50				4	3 SA	1 SA						37.1	70	10	10		Y		0	ox & unox basal till	4	6.2	162
MG 44	52A/12		27.0	7.9						50	50				3	2 SA	1 SA						33.7	70	20			Y	Y	0	ox & unox basal till	3	3.4	96
MG 45	52A/12		28.0	15.7						50	50				7	1 SA	6 SA						29.6	70	10				Y	0	silty, ox basal till, no bdrk	11	1.9	39
MG 46	52B/08		26.8	5.0						50	40	10			0								36.6		tr			Y	Y	0	sandy basal till	0	9.5	284
MG 47	52B/08		25.4	8.2						20	80				2		2 SA						37.3							0		2	4.2	98
MG 48	52B/08	granite	29.0	8.4						20	80				2	1	1 SA						25.2	90	10			Y		0		2	2.9	119
MG 49	52B/08	granite	24.7	6.5						20	80				2	1 SR	1 SA						45.1	80	10	tr					ox basal till	2	4.5	91
MG 50	52B/08		25.0	4.9						10	90				2	1 SR		1 SA					33.3	80	10			Y	Y	0	ox basal till above sand layer	2	6.9	210
MG 51	52B/08		23.5	5.9						60	40		Qtz		7	5 SA	1 A	1 SA					36.6	50				Y	Y	0		8	14.6	354
MG 52	52B/08		23.0	6.7						45	45		Qtz		0								45.4								oxidized basal till	0	22.8	410
MG 53	52B/09	volcanic	26.8	15.9						30	60	10			12	6 SA	5 SA	1 A					30.5	80	tr			Y	Y		oxidized basal till on bedrock	22	84.1	1520
MG 54	52B/09	volcanic	26.6	13.7									Qtz		5	4	1						44.2	60	tr					0		8	14.6	213
MG 55	52B/09		26.7	15.7									Qtz		6	1 SR	3 SA	2 A					25.8	50	15	tr				0	oxidized basal till	11	64.0	1370
MG 56	52B/09		25.9	13.5						60	40				3		1				2 SA		25.7					Y	Y	0	oxidized basal till	5	216.9	5250
MG 57	52B/09		22.7	3.7						30	70				1		1 SA						15.7	80	10			Y	Y	0	no bedrock	1	11.2	678
MG 58	52B/09		26.7	5.4						10	90				5		2 SR	2 SA			1 SA		30.2	60	10	5		Y	Y	0		5	38.9	1380
MG 59	52B/09		26.7	9.6						20	80				2		1 SA	1 SA					53.9	80	tr			Y			sand & boulders	2	0.2	3
MG 60	52B/09		25.2	5.4						10	90				4		2 SA	2 SA					24.6						Y		very sandy, oxidized	4	54.9	2230
MG 61	52B/09		24.8	5.5						40	60				1		1 SR						29.5	50	20				Y		sandy	1	2.4	78
MG 62	52B/09		28.0	5.4						10	90				2	2 SA/SR							22.9		tr			Y	Y	0	clayey till	2	3.2	159
MG 63	52B/09		24.5	4.7						25	75				3		2 SA	1 SA					42.1	30	tr					0	sandy	3	1.5	36
MG 64	52B/09		29.0	6.3						30	65		Qtz		3	1 SA	2 SA						28.3	60	5					0		3	4.0	160
MG 65	52B/09	volcanic	30.0	5.7						70	30		Qtz		2				2 SR				38.5	25	tr	tr		Y	Y	0	clayey, basal, volc, carb veins	2	7.1	224
MG 66	52B/09	volcanic	30.0	10.4									Qtz		2		1 R	1 R					40.5	25	tr	tr		Y	Y		silty basal till	2	10.1	246
MG 67	52B/09		34.0	8.7						75	25		Qtz		1			1					44.5	30	tr	tr		Y	Y		Cpy in conc., boulder pile	1	5.5	158
MG 68	52B/09		28.4	6.7						50	45		Qtz		4	2			1 SR	1 flat			32.9	75	tr	tr		Y	Y		basal till	4	11.9	393
MG 69	52B/09	mafic volc	28.5	10.9						90	10				3			3 SA					42.4					Y	Y		basal till silty & stoney	3	5.2	108
MG 70	52B/09	mafic volc	30.0	7.1						60	40				6		1 R	4 2R/2A		1 SA			36.6					Y			sandy basal till	5	21.5	678
MG 74	52B/09		27.5	14.4						90	5		Qtz		3		1	2					32.5	75	5	5		Y	Y		gravely basal till	5	7.8	158
MG 75	52B/09	mafic volc	30.0	9.7						80	20				1			1 A					44.0	25	tr						sandy stoney basal till	1	19.0	451
MG 76	52A/12		29.0	22.4						15	80		Qtz		3		3 R						24.6	90	tr	5		Y	Y		bad sample, sandy	9	16.0	216
MG 77	52A/12		28.5	6.4						60	40				8		2 del/R	4 3R/A	1 del	1 SR			25.2	80	tr	tr		Y	Y		silty basal oxidized till	7	14.3	634
SB 6	52B/09	mafic volc	27.0	12.5						75	25				4	1 SA	3 SA						55.4	60	10	tr		Y		0	unoxidized basal till	6	7.7	101
SB 7	52B/09		20.6	1.7						90					1	1 SA							22.2		5						oxidized till	1	1.9	81
SB 13	52B/09		30.0	5.4						40	60		jasp		6	2 SR	4 SR						60.7	60	10	20		Y	Y		oxidized till	5	1.4	28
SB 14	52B/09		20.1	3.3						10	90				0								34.3						Y	0	oxidized	0	0.5	13
SB 15	52B/09		21.7	4.8						45	50		Qtz		1		1						12.4					Y	Y		clay rich oxidized till	1	4.7	322
SQ 1	52B/10	gneiss/mig	20.0	2.5									Qtz		1	1							15.2	50	5	tr				0	ox till	1	3.9	228
SQ 2	52B/10	migmatite	24.8	1.9						40	60				4	2 SA		2 SA					40.6							0	oxidized till, clay rich	3	2.1	59
SQ 3	52B/10		27.0	4.6						20	80		Qtz		3	2 SA	1 SR						22.9					Y	Y			3	4.0	197
SQ 4	52B/10		26.3	0.1						95			Qtz		1	1 SA							18.4	60	5			Y	Y	0	oxid./unoxid. sandy till	1	0.5	39
GL 18	52B/09	mafic volc	25.1	7.9	2	2	3	2	2	100				A	4	1	1 SA	2 A,SA					24.8	50	2	0		1	2	0		5	12.6	444
GL 19	52B/09	gabbro	22.9	6.0	2	2	3	2	2	100				A	0								25.8	20	tr	0		2	1	0	silty	0	10.6	351
GL 20	52B/09		23.2	10.6	1	2	4	2	1	100				SA	0								23.6					1	1	0	silty gravelly	0	12.6	338
GL 21	52B/09	mafic volc	22.0	1.7	2	2	1	2	2	100				A	0								16.6	10	tr	0		0	2	0	silty basal	0	3.6	226
GL 22	52B/09	mafic volc	30.0	5.4	1	2	2	2	2	70	30				7	2	2	2	1				39.5	45	tr	tr						6	10.8	335
GL 23	52B/09	mafic volc	22.8	1.0	2	3	1	1	2	90	10				0								25.8	20	tr	tr						0	2.3	99
GL 24	52B/09	gabbro	25.0	6.5	1	2	3	3	2	80	20				3			3 SA					38.0	25	tr	tr						3	6.4	156
GL 25	52B/09	mafic volc	31.2	3.5	2	3	1	1	1	95				A	4		2	1	1				50.9	45	5	tr						3	5.3	145
GL 26	52B/09	mafic volc	25.9	6.7	3	2	2	2	2	70	20				2	1				1 A			16.0	15	5	tr						2	25.8	1550
GL 27	52B/09	mafic volc	30.2	5.2	2	3	3	3	2	90	10				0								30.1	30	5	10						0	2.1	86
GL 28	52B/09	mafic volc	30.0	9.6	1	2	3	3	3	95					4			4					36.1	30	7	tr						4	15.7	445
GL 29	52B/09	mafic volc	32.1	7.5	2	2	2	2	2	80	20			A	3	1		2					55.2	10	3	3						2	5.3	119
GL 30	52B/09		33.0	7.2	1	2	3	3	2						2			2 SA					50.0	35	5	tr						2	5.1	135
GL 31	52B/09		30.0	5.7	1	2	3	3	2	65					5		3	2 SA					39.8	25	5	10						4	5.6	229
GL 32	52B/09	gabbro	26.8	4.5	2	2	1	1	2	40		60			0								29.8	10	tr	tr						0	1.3	49
GL 33	52B/09	gabbro	32.0	2.5	3	2	1	1	3	90	5				5	3	1	1 SA					50.0	10	tr							3	4.3	127
GL 34	52B/09		26.5	8.4	2	1	4	4	1	30	30	20			3	2		1					10.7	20	tr	3						3	10.5	942
GL 35	52B/09	volc/gabbro	32.0	9.5	1	1	3	3	1	55	40				1			1 SA					32.9	30	tr	13						1	1.7	60
GL 36	52B/09	volc/gabbro	30.0	5.8	2	2	3	3	2	80	20				2	1		1					40.1	30	3	tr						2	2.5	76
GL 37	52B/09	mafic volc	25.0	4.5	2	2	2	2	2	75					2			2 SA					35.5	13	3							2	8.6	249
GL 38	52B/09	mafic volc	31.0	4.8	2	3	1	1	4	90	5				5	3		2 SA					38.8	30	5							4	7.0	237
GL 39	52B/09	gabbro	30.0	8.6	2	3	4	4	2	60	40				11		7 SA-SR	3 SA-SR			1 SA-SR		38.4	80	tr	tr						10	57.0	1580
GL 40	52B/09	tuff	33.1	5.3	2	1	2	2	2	45	50			A	2	1	1 SA						37.9	10	tr	13						1	4.5	164
GL 41	52B/09	gabbro	25.0	6.3	2	2	4	4	3	15	80				6		4	2						40	tr							6	6.5	285
GL 42	52B/09		32.0	15.6	2	2	4	4	1	80	20				8	3	1	2	2					40	tr	10						10	38.2	990
GL 43	52B/09		33.4	4.8	1	1	3	3	1	40	60				13	8	5						48.7	40	tr	tr						9	14.4	423
GL 44	52B/09		30.0	6.0	1	1	3	3	2		95				2	1		1					38.8	37	10	tr						2	4.3	134
GL 45	52B/09		30.0	2.5	3	2	1	1	3	40	35	10			2	1	1						20.4	35	tr	tr						1	2.4	164
BN 7	52B/09	volcanic	28.5	6.6	2	3	3	3	4	80	20			A	6		1 SR	3 dlSA,SA	2 del SA				48.3	25	tr	0		0	2	0	basal	5	8.4	192
TL 1	52B/09	volcanic	28.0	6.3	2	3	3	3	4	80	20			A	4		2 A,SA	1 SA		1 del			52.6	25	5	5		0	1	0	silty basal	4	18.4	381
TL 2	52B/09	volcanic	21.3	9.3	1	3	5	4	5	60	40			A	0								22.5	15	5	tr		0	2	0	silty basal	0	8.5	229
TL 3	52B/09	intrusive	25.7	2.7	2	3	1	1	1	100				SA	0								33.0	25	tr	tr		0	3	0	silty basal	0	1.6	56
TL 4	52B/09	sheared volc	28.0	7.7	2	2	4	3	2	70	30			SA	0								33.9	30	3	3		0	2	0	basal	0	3.0	91
TL 5	52B/09	volcanic	25.7	3.8	1	4	3	2	2	70	28	2		SA	2		1 SA	1 SR					36.6	20	10	5		0	2	0	basal	2	0.1	3
TL 6	52B/09	felsic tuff	22.7	8.2	1	2	4	4	5	95	5			A	2		1 SA		1 A				28.5					0	2	0	basal	3	8.2	211
TL 7	52B/09	gabbro	24.0	5.5	1	3	3	3	1	40	60			SA	6	3		3 A,SA,SA					43.5	30	tr	tr		0	2	0	silty basal	6	2.7	58
TL 8	52B/09		26.2	4.7	2	2	3	2	3	50	50			SA	2		1 A	1 SA					35.4	25	2	4		1	2	0	basal	2	7.7	235
TL 9	52B/09	volcanic	18.9	3.9	1	4	3	3	3	50	50			SR	0								32.8	10	tr	0		0	2	0	basal	0	1.9	44
TL 10	52B/09	volcanic	15.6	4.7	1	3	4	3	5	90	5		Qtz	A	0								38.3	tr	tr	0		1	1	0	basal	0	4.1	59
TL 11	52B/09	volcanic	13.1	2.7	1	3	3	3	4	80	20			A	0								24.0	tr	tr	0		0	1	0	basal	0	0.1	3
TL 14a	52B/09		21.5	2.1	3	0	1	2	3	80	20			A	2		1 A	1 A					34.9	60	2	10		1	3	0	basal	2	13.5	290
TL 14b	52B/09		21.7	2.4	3	0	2	1	1	70	25	5		SR	1			1 SA					45.1	40	2	5		1	2	0	basal	1	17.0	470
TL 16	52B/09		20.3	3.7	2	3	2	2	3	90	10			SR	0								30.6	5	2	0		0	2	0	basal	0	16.2	441
TL 17	52B/09	granite	19.4	4.5	2	3	4	4	2	50	45	5		SA	0								46.9	5	2	tr		0	1	0	basal	0	0.2	3
TL 18	52B/09		22.3	4.0	2	2	3	3	3	15	80		Qtz	A	3		1 SR	2 SA,SR					39.2	45	2	5		1	3	0	basal	3	8.7	204
TL 19	52B/09	volcanic	16.9	0.5	1	4	1	1	1	60	40			SA	0								44.2	20	2	0		0	1	0	silty basal	0	1.3	25
TL 20	52B/09	volcanic	14.3	5.5	1	4	2	3	4	100				A	1			1 SR					32.5	1	0	0		1	0	0	basal	2	4.4	60
TL 21	52B/09	volcanic	15.0	8.1	1	2	4	2	4	100				A	0								23.7	tr	2	0		1	0	0	basal	0	0.2	3
TL 22	52B/09	mafic volc	15.8	10.4	1	3	5	2	5	100				A	0								28.5	1	0	0		1	0	0	basal	0	3.8	36
TL 23	52B/09	felsic volc	17.8	4.0	1	3	4	4	4	90	10			A	0																basal	0	0.7	18
TL 24	52B/09	felsic seds	22.2	3.9	1	3	3	3	3	100				A	1				1 SA				28.4	15	tr	5		0	2	0	basal	1	11.1	361
TL 25	52B/09	metaseds	17.1	3.2	1	3	3	3	4	60	40			A	2		1 SA	1 SR					30.8	10	5	10		2	2	0	silty basal	3	9.0	205
TL 26	52B/09	metaseds	16.0	4.6	1	3	4	3	5	70	30			A	0								21.8	20	tr	0		0	1	0	basal	0	0.1	3
TL 27	52B/09	metaseds	17.0	1.3	2	0	3	2	4			100		A	0								18.9	tr	tr	tr		0	0	0		0	0.3	13
TL 28	52B/09	seds + IF	13.5		1	4	0	1	0						0								33.3	10	tr	tr		0	0	0		0	0.1	3
TL 29	52B/09	seds + IF	15.3	7.3	0	3	2	3	4	30	70			A	0								28.3	0	tr	0		1	0	0		0	0.2	3
TL 30	52B/09		19.0	2.1	1	1	2	2	3	50	50			A	3	1	1 SR	1 SA					33.6	10	tr	tr		1	1	0		4	5.5	139
TL 33	52B/09	granite/volc	19.6	7.4	1	3	4	4	3	10	80	10		SA	0																	0	5.4	149
TL 34	[illegible]		20.4	5.8	1	3	4	4	2	40	60			SA	0																	0	8.3	196
TL 35	52B/09	volcanic	18.0	3.0	4	0	2	2	3	100				A	1		1 SR						26.3	10	3	2		1	2	0		1	4.4	127
TL 36	52B/09	volcanic	14.6	1.6	1	3	0	0	1		100			SR	0								10.5	7	tr	0		0	1	0		0	0.0	3
TL 38	52B/09		17.1	3.9	1	3	3	2	2	80	20			A	1			1 SA					23.7	15	3	4		0	2	0		2	5.8	163
TL 39	52B/09	volcanic	19.4	3.6	1	3	3	3	2	50	50			A	0																	0	3.0	85
TL 40	52B/09	volcanic	13.4	2.5	1	4	2	3	3	10	90			A	0								25.4	2	tr	0		0	0	0		0	3.1	66
TL 41	52B/09	volcanic	27.0	2.4	2	2	4	3	2	20	80			SA	0								55.0	20	tr	5		2	3	0		0	5.1	115
TL 42	52B/09	volcanic	19.0	1.9	1	4	1	2	2	30	70			A	0								36.9	5	0	3		0	1	0		0	3.4	79
TL 43	52B/09	volcanic	14.4	4.0	1	3	5	4	5	40	30	30		A	0								26.0	5	tr	tr		1	1	0		0	8.7	175
TL 44	52B/09		18.2	1.5	1	2	1	1	1	30	70			A	0								37.0	30	tr	tr		1	2	0		0	4.8	109
TL 45	52B/09		24.5	4.3	1	2	4	4	3	20	60	20		A	1	1							41.8	25	1	0		1	3	0		1	3.5	84
SH 34	52A/12		24.1	0.4	3	2	1	1	3	100				SR	0								43.5	65	0	0		1	1	0	silty basal	0	0.1	3
SH 35	52A/12		20.9	9.3	4	2	4	4	3	25	70			SA	1				1 SA				28.4	30	2	0		1	0	0	sandy	2	42.7	879
no. of samples			199	198						185	157	21			199	71	91	101	31	7	5	0	193	164	159	124		134	144	134		199	199.0	199
minimum value			13.1	0.0						0	5	0			0	0	0	0	0	0	0	0	0.0	0	0	0		0	0	0		0	0.0	3
maximum value			43.7	22.4						100	100	100			13	8	7	6	2	1	2	0	63.3	95	30	20		2	3	0		22	216.9	5250
mean value			25.7	6.7						57	48	15			3	2	2	2	1	1	1	0	33.2	37	3	2		0	1	0		3	9.8	288
standard deviation			5.7	3.9						30	27	24			3	1	1	1	0	0	1	0	11.6	28	4	4		1	1	0		3	19.0	494
variance			32.8	15.6						887	718	568			7	2	2	2	0	0	1	0	134.5	777	20	15		0	1	0		10	361.2	244309
anomalous threshold			37.2	14.6						117	102	63			8	4	4	4	2	2	2	0	56.4	93	12	10		1	2	0		9	47.8	1277

52F04NE9650 63.6161 ADRIAN

440

Table 3

ATIKOKAN AREA

C - compactness CS - clast size
O - oxidation CA - angularity
S - stoniness

SR - sub rounded
SA - sub angular
del - delicate

BULK TILL RECONNAISSANCE PROGRAM

SAMPLE No.	LOCATION N.T.S.	BEDROCK	WEIGHT (kg) Total	+6mm Frac.	TILL DESCRIPTION C	O	S	CS	CA	PEBBLE COUNT Volc	Int	Sed	Other	Shape	TOTAL GOLD GRAINS	GOLD GRAIN DESCRIPTION <.05 mm No. Shape	.05-.1mm No. Shape	.1-.2 mm No. Shape	.2-.3 mm No. Shape	.3-.4 mm No. Shape	.4-.5 mm No. Shape	>.5 mm No. Shape	CONCENTRATE Wgt. (gm.)	Mag %	Py %	Gar %	Misc.	Ultraviolet lamp Sch	Zir	Rad	NOTES	NORMALIZED VALUES GOLD grains	GOLD microgm
A 1	52B/12	metaseds	28.0	7.6	3	2	5	3	2	15	70	15		A	0								37.4	10	3	10		0	1	0	basal	0	2.2
A 2	52B/12	metaseds	22.9	7.3	1	4	5	4	5		30	70		A	1				1 SR				45.6	35	tr	20		1	3	0	basal	1	21.0
A 3	52B/12	metaseds	26.8		1	4	3	1	3							sample lost in concentration																0	
A 4	52B/12	metaseds	32.0	9.0	0	2	5	3	4		40	60		SA	0								39.1	25	5	2		0	0	0	outwash	0	24.7
A 5	52B/12	metaseds	24.5	7.4	2	5	4	4	4			100		A	0								32.6	20	5	2		0	1	0	basal	0	2.6
A 6	52B/12	metaseds	25.4	11.1	1	5	5	5	4		60	40		A	1				1 SR				35.7	40	2	tr		1	1	0	basal	1	13.2
A 7	52B/12	metaseds	23.4	10.3	1	5	5	5	5		30	70		A	0								42.5	30	tr	tr		1	2	0	basal	0	4.7
A 8	52B/12	metaseds	21.3	9.4	1	5	5	5	5			100		A	0								38.4	10	tr	5		1	1	0	basal	0	1.2
A 9	52B/12	metaseds	24.3	8.7	1	5	5	5	5			100		A	1				1 SR				33.8	15	tr	tr		1	2	0	basal	1	26.0
A 10	52B/12	volcanic	23.0	2.8	1	5	2	4	4			100		A	3	1		2 SR					21.9	tr	tr	0		0	0	0	basal	3	3.6
A 11	52B/12	metaseds	21.1	7.9	1	5	5	5	5	10	10	80		A	1		1 A						43.3	30	2	0		0	1	0	basal	2	13.1
A 12	52B/12	metaseds	20.8	4.5	1	5	3	4	5		20	80		A	0								38.5	35	tr	tr		1	1	0	basal	0	5.9
A 13	52B/12	metaseds	20.6	5.0	1	5	3	3	4		30	70		A	0								44.1	30	tr	0		0	1	0	basal	0	12.9
A 14	52B/12	metaseds	24.7	4.0	1	4	2	3	4		5	95		A	0								36.4	15	tr	0		1	2	0	basal	0	9.6
A 15	52B/12		28.0	3.4	0	5	2	1	1		10	90		A	5	2		2 A	1 A				40.9	35	5	tr		1	2	0	basal	4	27.1
A 16	52B/12	metaseds	27.0	12.4	1	4	5	3	5			100		A	0								43.9	15	5	tr		0	0	0	basal	0	9.0
A 17	52B/12	metaseds	30.0	2.5	1	5	5	2	5			100		SA	1					1 A			39.4					0	1	0	basal	1	13.5
A 18	52B/12	metaseds	18.7	0.8	2	4	1	1	4			100		A	0								26.9	10	0	tr		1	1	0	basal	0	3.0
A 19	52B/12	metaseds	20.4	4.9	2	5	5	4	5			100		A	1			1 SR					40.4	50	tr	0		1	1	0	basal	1	13.1
A 20	52B/12	metaseds	27.0	2.4	2	5	2	2	4		30	70		A	0								27.9	25	tr	tr		1	1	0	basal	0	3.3

CONCENTRATE ASSAYS

SAMPLE No.	Au ppb det 5	Au mgn	Ag ppm 5	As ppm 2	Ba ppm 200	Br ppm 5	Ca % 1	Co ppm 5	Cr ppm 10	Cs ppm 2	Fe % 0.0	Hf ppm 1	Hg ppm 5	Ir ppb 40	Mo ppm 20	Na ppm 500	Ni ppm 200	Rb ppm 50	Sb ppm 0.2	Sc ppm 0	Se ppm 20	Sr % 0.2	Ta ppm 1	Th ppm 1	U ppm 0.5	W ppm 4	Zn ppm 200
A 1	59	2.2	3	7	100	3	1	14	190	1	7.3	51	3	20	10	17400	100	54	0.4	20	10	0.1	1	15	5.3	2	100
A 2	361	16.4	3	11	300	3	1	15	390	1	15.5	50	3	20	10	12300	100	25	0.8	17	10	0.1	5	26	5.4	2	100
A 3																											
A 4	730	28.5	3	23	100	3	1	45	400	1	16.4	16	3	20	10	14100	100	25	3.1	11	10	0.1	4	11	4.7	2	100
A 5	69	2.2	3	6	350	3	3	25	380	1	20.3	44	3	20	10	14200	100	25	0.6	18	10	0.1	6	15	3.3	2	100
A 6	265	9.5	3	4	420	3	2	21	310	1	24.8	32	3	20	10	13300	100	67	0.3	11	10	0.1	13	21	4.6	8	100
A 7	73	3.1	3	5	100	3	1	21	290	1	16.5	39	3	20	10	11800	100	25	0.1	17	10	0.1	4	25	5.0	2	100
A 8	18	0.7	3	6	320	3	1	26	320	2	7.8	29	3	20	10	15500	100	65	0.1	20	10	0.1	4	11	3.8	2	100
A 9	600	20.3	7	12	100	3	3	24	320	5	12.1	44	3	20	10	15400	100	25	0.1	20	10	0.1	3	18	5.2	5	100
A 10	166	3.6	3	14	550	3	6	18	170	1	6.8	36	3	20	10	17400	100	25	1.0	17	10	0.1	1	13	4.9	2	100
A 11	200	8.6	3	38	330	3	1	25	280	1	16.5	35	3	20	10	11800	100	25	2.2	16	10	0.1	1	14	4.3	2	100
A 12	125	4.8	3	15	100	3	1	20	300	1	12.7	40	3	20	10	15700	100	56	0.8	17	10	0.1	4	18	3.7	2	100
A 13	229	10.1	3	9	590	3	4	21	260	2	8.0	28	3	20	10	17600	100	64	0.3	16	10	0.1	3	13	3.6	2	100
A 14	274	9.9	3	14	280	3	1	21	540	1	12.9	65	3	20	10	13700	100	25	1.2	18	10	0.1	3	19	5.0	7	100
A 15	819	33.3	3	29	100	3	3	62	550	1	26.6	27	3	20	10	8970	100	52	2.1	15	10	0.1	3	23	4.9	17	230
A 16	151	6.6	3	25	330	3	1	29	370	1	13.6	29	3	20	10	15500	100	55	1.9	18	10	0.1	2	11	3.2	2	100
A 17	473	18.6	3	24	350	3	1	36	370	1	16.1	28	3	20	10	15000	220	60	2.6	15	10	0.1	1	18	3.2	2	100
A 18	99	2.7	3	34	100	3	1	27	340	1	14.1	50	3	20	10	14100	100	25	2.2	21	10	0.1	1	16	4.6	2	100
A 19	252	10.1	3	63	100	3	1	33	420	1	21.5	33	3	20	10	12500	100	25	3.5	16	10	0.1	3	13	1.0	2	100
A 20	146	4.0	3	51	370	3	1	31	550	1	20.9	79	3	20	10	10600	100	61	2.9	32	10	0.1	2	28	7.4	10	100

	WEIGHT Total	+6mm Frac.	Volc	Int	Sed	TOTAL GOLD GRAINS	<.05 mm	.05-.1mm	.1-.2 mm	.2-.3 mm	.3-.4 mm	.4-.5 mm	>.5 mm	Wgt.	Mag	Py	Gar	Sch	Zir	Rad	NORMALIZED GOLD grains	GOLD microgm
no. of samples	246	245	127	205	109	246	11	29	49	22	5	4	2	245	239	240	237	245	245	247	246	246
minimum value	14.0	0.0	0	0	0	0	0	1	0	1	0	1	1	16.7	0	0	0	0	0	0	0	0.0
maximum value	37.0	24.0	100	100	100	11	6	4	5	2	1	1	1	52.1	80	20	45	3	3	0	13	148.1
mean value	24.4	6.0	42	62	56	1	2	1	1	1	1	1	1	35.5	24	2	3	1	1	0	1	9.7
standard deviation	4.2	3.7	29	34	34	1	2	1	1	0	0	0	0	7.5	15	3	5	1	1	0	1	18.4
variance	18.0	13.9	869	1189	1163	2	2	1	1	0	0	0	0	56.7	232	9	30	0	0	0	2	340.3
anomalous threshold	32.9	13.5	101	131	125	3	5	3	3	1	2	1	1	50.5	55	7	14	2	3	0	4	46.6

	Au ppb	Au mgn	Ag	As	Ba	Br	Ca	Co	Cr	Cs	Fe	Hf	Hg	Ir	Mo	Na	Ni	Rb	Sb	Sc	Se	Sr	Ta	Th	U	W	Zn
no. of samples	245	246	245	245	245	245	245	245	245	245	245	245	245	245	245	245	245	245	245	245	245	245	245	245	245	245	245
minimum value	3	0.0	3	1	100	3	1	9	110	1	5.5	11	3	20	10	7550	100	25	0.1	8	10	0.1	1	5	0.7	2	100
maximum value	3250	129.2	9	160	610	7	7	84	2000	5	34.5	210	3	20	67	23600	360	100	12.0	52	10	0.3	20	270	36.0	180	340
mean value	242	8.5	3	9	241	3	2	30	373	1	15.9	48	3	20	10	14241	106	34	0.6	21	10	0.1	3	29	4.9	6	123
standard deviation	427	15.7	1	22	148	0	1	11	187	1	6.0	27	0	0	5	2710	31	17	1.4	7	0	0.0	3	33	3.8	14	54
variance	182350	247.9	0	501	21779	0	1	129	34936	0	36.4	712	0	0	21	7344155	983	289	2.1	53	0	0.0	6	1069	14.5	190	2883
anomalous threshold	1096	40.0	4	53	536	4	4	53	747	3	28.0	101	3	20	20	19661	169	68	3.5	35	10	0.1	8	94	12.5	33	231

Table 5

MINE CENTRE AREA

C - compactness CS - clast size
O - oxidation CA - angularity
S - stoniness

SR - sub rounded
SA - sub angular
del - delicate

BULK TILL RECONNAISSANCE PROGRAM

SAMPLE No.	LOCATION N.T.S.	BEDROCK	WEIGHT (kg) Total	+6mm Frac.	TILL DESCRIPTION C	O	S	CS	CA	PEBBLE COUNT Volc	Int	Sed	Other	Shape	TOTAL GOLD GRAINS	GOLD GRAIN DESCRIPTION <.05 mm No. Shape	.05-.1mm No. Shape	.1-.2 mm No. Shape	.2-.3 mm No. Shape	.3-.4 mm No. Shape	.4-.5 mm No. Shape	>.5 mm No. Shape
M 1	52C/09	fault brec.	25.0	8.8						65	35				4			4 3A,SR				
M 2	52C/09	sheared volc			sample lost																	
M 3	52C/09	granite+volc	21.0	4.6							20	80		A	4			2 A,SA	2 A,SA			
M 4	52C/09	granite+volc	18.6	3.9						30	70			SA	6	2 SA	1 SA	2 SA	1 SA			
M 5	52C/09		21.4	4.4						5	95			SA	5		1 SA	3 2SA,A	1 SA			
M 6	52C/09	mafic rock	21.5	3.8							100			SA	6	2	1 SR	2 SA,SR	1 SA			
M 7	52C/09	mafic volc	16.3	6.9							5	95		A	2			2 A,SA				
M 8	52C/10	sheared volc	16.7	5.6						100				A	1			1 A				
M 24	52C/09	sheared volc	20.8	9.2						50	50				0							
M 25	52C/09	volcanic	21.5	5.4						40	60				0							
M 26	52C/09	sheared seds	20.1	7.6						60	40				2			2 A,SR				
M 27	52C/09	sheared seds	23.1	5.3							60	40		A	2			2 A				
M 28	52C/09	metaseds	17.7	5.0							50	50		A	0							
M 29	52C/16	granite	28.0	6.5	2	4	2	2	3	20	80			A	2	1			1 A			
M 30	52C/16	mafic volc	32.0	5.2	1	3	2	2	2		100			SA	4	1	1 SR	2 A,SA				
M 31	52C/16	mafic volc	27.0	5.4	1	3	1	2	2		100			SA	8	1	1 SA	2 SA,A	3 A,2SA	1 A		
M 32	52C/16	mafic volc	32.0	8.5	1	4	3	4	2		100			SA	1	1						
M 33	52C/16	volcanic	28.0	6.5	2	3	3	3	3						0							
M 34	52C/16	volcanic	23.8	5.0	2	2	2	3	3		100			SA	1			1 SA				
M 35	52C/09		27.0	8.3	1	3	3	3	2		50	50		A	4		1 A	2 A,SA	1 SA			
M 36	52C/09	metaseds	24.0	8.0	2	1	2	3	1		30	70		A	4	2		2 SA,SR				
M 37	52C/09	metaseds	28.0	3.0	3	2	2	2	3		50	50		A	1				1 SA			
M 38	52C/09	metaseds	29.0	5.3	2	2	2	3	3		20	80		A	3			3 A,2SA				
M 41	52C/09	metaseds	22.2	4.7	2	4	2	5	2	50	50			SA	0							
M 42	52C/09	metaseds	20.7	4.5	2	3	2	2	3		20	80		A	7		1 SA	1 SA				
M 43	52C/09	metaseds	21.0	5.3	3		3	2	3			100		A	0							
M 44	52C/09	metaseds	20.0	3.0	3		1	1	1		100			SA	0							
M 47	52C/09	metaseds	21.0	6.0	3	2		3	3			100		A	2	1 SA		1 A				
M 48	52C/09	metaseds	21.5	5.5	2	3		2	3		20	80		A	1		1					
M 49	52C/09	metaseds	20.5	4.8	3	2	2	3	4		50	50		SA	2		1 A	1 A				
M 50	52C/16	metaseds	37.5	10.4	2	5	3	2	1		70	30		A	7		5 2SR2A,R	1 A	1 SA			
M 51	52C/16		20.4	2.3	1	4	0	1	1		100			SR	3		2 SR	1 SA				
M 52	52C/16	metaseds	22.1	3.3	2	4	3	2	2			100		A	3		1 A	2 A,SR				
M 53	52C/16	metaseds	19.4	3.8	2	4	3	3	2		40	60		A	1		1 SA					
M 54	52C/09	metaseds	19.4	6.0	2	4	3	2	2		70	30		A	3	1	1 SR		1 A			
M 55	52C/14	volcanic	24.5	6.4	1	4	3	2	3	70	30			SA-A	3		2 SA		1 SA			
M 56	52C/14	volcanic	17.5	8.0	1	4	3	2	4	100				A	3		1 SA	1 SA	1 SA			
M 57	52C/14	volcanic	15.5	3.7	1	4	3	3	4	40	60			A-SA	0							
M 58	52C/14	volcanic	15.9	2.9	3	0	2	3	3	25	75			SA-SR	3		2 SR,SA	1 SR				
M 59	52C/14	volcanic	22.5	11.0	1	4	4	2	4		100			A	2		1 A	1 A				
M 60	52C/14		23.5	10.0	1	2	5	2	2		100			A	3			3 2SA,A				
M 61	52C/14		22.9	2.9	1	0	3	3	3	90	10			SA	2		1 R	1 A				
M 62	52C/14	intrusive	21.2	6.4	1	1	3	3	4	50	50			SA	6		3 SA	2 SR,SA	1 SA			
M 63	52C/14	intrusive	18.5	5.2	1	1	3	3	3	40	60			SA-SR	3		2 SR,SA	1 SR				
M 64	52C/14	granite	17.0	6.4	1	3	3	2	4	40	60			SA	?							
M 65	52C/14		20.9	5.0	1	1	3	2	3	5	95			SA	2		1 SR	1 SR				
M 66	52C/14	intrusive	14.9	3.8	1	4	4	4	3		100			SA	0							
M 67	52C/14	granite	16.2	4.3	1	4	4	3	4		100			SA	1			1 A				
M 68	52C/14		21.1	3.5	1	2	4	3	4		80	20		SR	4		1 SA	3 SR				
M 69	52C/14	granite	17.5	4.5	1	1	1	5	5	50	50			SR-A	0							
M 70	52C/14	granite	27.5	4.4	1	1	4	5	5	40	60			SA	2			1 SA	1 SA			
M 71	52C/14	granite	25.2	5.5	1	3	4	3	4	15	85			SA	1				1 SR			
M 72	52C/14	granite	22.0	3.9	1	1	4	5	4	20	80			SA	0							
M 73	52C/16	rhyolite	21.5	5.1	2	1	2	2	3	50	50			A	2			1 SR	1 R			
M 74	52C/16	-	23.0	5.9	2	1	3	3	4			100		A	0							
M 75	52C/16		28.0	7.5	2	2	3	2	3		100			A	2		1	1 SR				
M 78	52C/10	metaseds	25.6	8.2	4	1	5	4	4	20	60	20		A	3			2 SR	1 del			
M 79	52C/10	metaseds	23.6	6.4	4	1	5	5	3	30	70			A	3			1 SR	1 SA			1 SA
M 80	52C/10	metaseds	20.6	12.6	1	4	5	4	5			100		A	0							
M 90	52C/10	metaseds	26.0	3.0	1	1	2	3	4			100		A	3			1 SA	2 SA			
M 91	52C/10	metaseds	18.4	3.3	1	3	4	4	4			100		A	0							
M 92	52C/14	volcanic	28.0	8.4	1	4	4	4	5	70	30			A	2			2 R,SA				
M 93	52C/14	volcanic	29.0	12.6	1	5	4	4	3	90	10			SA	2		2 SR,A					
M 94	52F/03	volcanic	19.2	4.6	1	5	5	5	4	100				SA	0							
M 95	52F/03	volcanic	23.5	6.1	1	4	4	4	4	80	20			SA	1			1 SR				
M 96	52F/02	volcanic	19.3	4.0	1	3	2	2	1	70	30			A	0							
M 97	52F/02	volcanic	25.0	9.2	1	4	5	4	3	50	50			A	1			1 A				
M 98	52F/02	volcanic	29.0	13.0	1	4	5	4	5	60	40			A	1			1 SA				
M 99	52F/02	volcanic	22.4	3.1	2	4	2	1	4	30	30			A	0							
M 100	52F/02	volcanic	24.5	9.4	2	4	5	5	5	70	30			A	2			1 SR		1 SR		
M 101	52F/02	volcanic	25.9	5.6	1	4	4	5	4	50	50			A	0							
M 102	52F/02	volcanic	21.5	13.6	1	5	5	5	4	70	30			A	1			1 SA				
M 103	52F/02	volcanic	23.4	6.7	4	2	5	4	5	70	30			A	2			2 SA				
M 104	52F/02	volcanic	23.9	5.2	1	4	4	4	5	70	30			A	0							
M 105	52F/07	granite	27.0	8.7	1	4	4	3	3	60	40			A	0							
M 106	52C/10	metaseds	19.8	0.9	4	1	4	4	4			100		A	6	3		3 SA,2A				
M 107	52C/10	metaseds	18.4	3.5	3	1	3	1	4	10	80	10		SA	4			4 2SA,SRA				
MCN 1	52F/03	intrusive	34.0	6.0	3	1	2	2	3		100			A	1				1 SA			
MCN 2	52F/03	intrusive	32.0	7.5	2	0	2	5	5		100			A	1	1 SA						
MCN 9	52F/03	mafic volc	31.0	6.3	3	2	2	1	3	100				A	4	1	1 A	2 SA,SR				
MCN 10	52F/03	mafic volc	25.9	3.8	3	3	3	3	4	10	10	80		A	8	4	2 SA,SR	1 A		1 A		
MCN 11	52F/03	volcanic	34.7	12.3	3	4	5	5	3		40	60		A	2		1 SA	1 SA				
MCN 12	52F/03	mafic volc	26.5	6.9	4	3	3	3	4	20	50	30		A	4	2		1 SR	1 A			
MCN 13	52F/03	sheared volc	24.6	8.0	1	3	3	2	4	100				SA	2			2 A				
MCN 14	52F/03	mafic volc	30.0	1.1	2	1	1	1	5			100		A	5	4 SR	1 SA					
MCN 15	52F/03	mafic volc	28.0	7.7	0	3	2	1	4		20	80		A	1			1 A				
MCN 16	52F/03	metaseds	28.0	16.0	2	2	5	4	5			100		A	1		1					
MCN 17	52F/03	sheared ?	30.0	8.3	2	0	2	1	4			100		A	2	2						
MCN 18	52F/03	granite	33.0	12.3	2	1	3	2	3		10	90		A	7			4 2A,SA,R	3 2A,SA			
MCN 19	52F/03		34.0	8.4	4	2	3	2	3		60	40		A	1				1 A			
MCN 20	52F/03	metaseds	24.8	4.2	4	2	2	4	4		20	80			5	2	2 A	1 A				
MCN 21	52F/03	intrusive	28.0	8.6	4	1	4	3	3		50	50			2		1 SA	1 A				
MCN 22	52F/03	metaseds	25.0	8.7	4	2	3	3	4			100			43	37	3 A	2 SA	1 A			
MCN 23	52F/03	ultramafics	21.6	2.8	2	4	3	2	4		100			A	4		2 SA	2 A,SR				
MCN 24	52F/03	metaseds	24.3	4.3	3	2	3	2	4	70		30		A	4		3 SR,2SA	1 A				
MCN 25	52F/03	metaseds	19.5	4.2	2	3	2	2	4	50		50		SA	3	2		1 SR				
MCN 26	52F/03	metaseds	20.1	4.5	3	3	3	3	3		40	60		A	1			1 A				
MCN 27	52F/03	volcanic	26.0	5.9	3	4	3	4	4			100		A	6			5 2A,3SA	1 A			
MCN 28	52F/03	metaseds	21.5	7.8	2	4	3	4	5			100		A	6	3	1 SR	1 SA	1 A			
MCN 29	52F/03		20.4	5.6	4	2	4	4	3	50		50		A	4		1	3 SA				
MCN 30	52F/03	metaseds	27.0	6.5	2	3	2	2	3	30		70		A	0							
MCN 31	52F/03	mafic volc	24.6	9.2	3	3	3	3	3	100				A	14	3	5 SA	9 SA	1 A			
MCN 32	52F/03	mafic volc	17.2	5.4	2	3	4	4	4	90	10			A	0							
MCN 33	52F/03	granite	24.9	6.6	3	3	3	3	2	50	50			SA	3			2 SA	1 A			
MCN 34	52F/03	granite	28.0	7.0	2	3	3	2	3	60	40			A	7	5		2 SA,A				
MCN 35	52F/03	mafic volc	26.0	4.6	4	2	5	3	3	100				A	3	1 A	1 A	1 SR				
MCN 36	52F/03	mafic volc	27.0	7.2	3	2	2	3	4	90	10			SA	4	1		3 A,delSA				
MCN 37	52F/03	metaseds	28.0	7.0	3	4	4	2	4	70	30			A	3			3 2A,SR				
MCN 38	52F/03	seds/granite	24.4	6.6	3	4	3	2	3	40	20	40		A	9	3	3 A	3 A,2SA				
MCN 39	52F/03	volc granite	22.0	4.4	2	4	2	2	4	70	30			A	2	1			1 SA			
MCN 40	52F/03	granite	23.1	6.5	1	3	2	3	4	60	40			A	5	1	2 SA	1 SA	1 A			
MCN 41	52F/03	mafic volc	20.1	7.0	4	3	4	2	4	50	50			SA	3		2 SR,SA	1 SR				
MCN 42	52F/03	mafic volc	23.6	4.0	3	3	2	1	3	60	40			SA-A	3		1 A	2 SA				
MCN 43	52F/03	mafic volc	16.5	2.0	3	4	3	2	4		100			A	2		1 A	1 SR				
MCN 44	52F/03		20.8	3.6	4	2	4	2	4	60	40			A	4	1		3 A				
MCN 45	52F/03	mafic volc	25.8	9.1	4	3	4	4	4	40	60			A	0							
MCN 46	52F/03	mafic volc	19.1	5.0	3	4	3	2	4		70	30		A	2		1	1 SA				
MCN 47	52F/03	volc/seds	19.7	12.0	2	3	4	3	5			100		A	0							
MCN 50	52F/03	felsic volc	21.0	4.6	2	3	1	2	3			100		A	6		1 R	3 2SR,SA	1 SA		1 SA	
MCN 51	52F/03	volcanic	25.3	8.5	1	2	2	3	3	40	20	40		SA	3	1 SR			2 2SR			
MCN 52	52F/03	volcanic	24.7	4.7	1	3	2	2	4	100				A	7			3 2SR,SA	1 SA		2 SR,SA	1 (.6x.3)
MCN 53	52F/03	sheared volc	22.6	4.4	1	3	1	2	2	20	40	40		A	4		2 SR,SA	1 SR	1 SR			
MCN 54	52F/03	volcanic	24.0	9.6	2	3	3	3	4			100		A	12	3	3	3 2A,SR	3 2SR,del			
MCN 55	52F/03	mafic volc	22.0	9.2	2	3	2	2	3			100		A	1			1 SA				
MCN 56	52F/03	sheared volc	20.4	10.8	2	4	4	2	4			100		A	5		5					
MCN 57	52F/03		28.0	15.6	2	2	3	4	3	100				A	2	1	1 A					
MCN 58	52F/03		25.8	12.7	2	3	2	2	3	100				SA	1					1 SA		
MCN 59	52F/03	volcanic	19.3	5.1	2	3	2	3	2	50	50			A	1				1 SR			
MCN 60	52F/03	granite	19.9	8.9	1	3	3	2	4	100				A	1		1 SA					
MCN 61	52F/03		22.0	6.5	2	2	1	2	3	50	50			A	10	5	1	4 A				
MCN 62	52F/03	sheared volc	30.0	4.7	3	4	2	3	4	95		5		A	2		1 A	1 A				
MCN 63	52F/03		21.6	8.0	2	1	3	3	4	100				A	6	3	1 SA	2 A				
MCN 64	52F/03		18.6	7.8	2	2	2	3	3	70	30			SA	10	2	3 2SA,A	3 2SA,A	2 A			
MCN 65	52F/03		15.0	4.6	3	3	2	3	4	40		60		A	6		2 SA	2 A,SR	2 SA			
MRL 1	52C/15		29.0	8.1	1	4	5	5	2		100			SA	5	2 A	1 A	2 SA				
MRL 2	52C/15	intrusive	20.2	5.1	1	2	3	3	2		100			A	4	1	1 del.	2 SA				
MRL 3	52C/15		33.0	4.4	1	4	2	4	2		100			SA	2	1	1 SA					
MRL 4	52C/15	granite	29.0	12.8	1	0	3	4	3		100			SA	0							
MRL 6	52C/15		26.0	15.1	1	1	3	3	2		100			A	0							
MRL 7	52C/15	granite	21.2	3.4	1	1	3	3	3		100			A	2	1 A	1 A					
MRL 8	52C/15	granite	33.0	13.4	2	1	4	3	3		100			A	1		1 SA					
MRL 9	52C/15	granite	25.0	3.9	1	1	3	5	4		100			A	6	1	2 SA	2 A	1 A			
MRL 10	52C/15	migmatite	17.0	0.5	1	3	0	1	4		100			A	0							
MRL 12	52C/15	migmatite	24.0	2.6	1	2	3	4	3		100			A	1		1 SA					
MRL 13	52C/15	intrusive	21.0	2.5	1	1	2	3	4	20	80			SA-SR	0							
MRL 15	52C/15	intrusive	22.1	1.4	3	1	2	3	3		100			A	0							
MRL 16	52C/15	granite	23.5	2.3	1	2	2	3	4		100			SA	2			2 SA				
MRL 17	52C/15	migmatite	24.0	7.3	2	3	2	4	4		100			SA	0							
MRL 19	52C/15	migmatite	23.5	5.6	3	3	3	4	4		100			SA	2			1 SA	1 del.			
MRL 20	52C/15		19.5	5.9	2	3	2	5	4		100			SA	0							
MRL 21	52C/15	granite	19.4	3.9	3	2	2	2	3		100			A	0							
MRL 23	52C/14	granite	22.3	2.6	3	3	1	4	4	35	65			SA	3				1 SA	1 SR	1 R	
MRL 24	52C/14	granite	22.9	6.0	3	3	2	4	5	40	60			SA	3	1 SA	2 SA					
MRL 25	52C/14	granite	19.2	2.3	3	3	3	4	4	30	60	10		SA	2	1 SR		1 R				
MRL 26	52C/14	granite	19.6	6.3	1	3	4	3	4	20	80			SA	2			1 SA	1 SA			
MRL 27	52C/14	granite	24.2	1.8	1	0	1	1	2		100			SA	4	1 SR	2 SA,A	1 SA				
MRL 28	52C/14	granite	25.4	11.2	2	2	3	3	4	40	60			A	1			1 SA				
MRL 29	52C/14		21.3	7.3	1	0	3	•2	3		100			A	0							
MRL 37	52C/14	migmatite	18.7	4.8	1	5	3	3	3		100			SA	1				1 SR			
MRL 39	52C/14	migmatite	14.2	4.5	1	5	4	3	3		100			A	3		1	1 SA	1 SR			
MRL 40	52C/14	migmatite	19.2	8.5	1	3	5	5	3	20	80			SR	2		1	1 sa				
MRL 41	52C/14	migmatite	22.2	11.4	1	1	5	3	3	30	70			SR	0							
MRL 42	52C/14	migmatite	16.0	6.4	1	2	5	4	4	20	80			SA	1				1 R			
MRL 43	52C/14	migmatite	14.6	3.7	6	2	1	2	4		100			A	2		1	1 SA				
MRL 44	52C/14	granite	22.1	6.4	1	1	5	2	4	20	80			SA	1			1 del				
MRL 48	52C/11	mafic volc	17.1	4.8	2	1	3	4	3	80	20			A	0							
MRL 51	52C/11	metaseds	13.0	8.4	1	3	3	5	5	100				A	0							
MRL 52	52C/11	granite	15.0	3.0	2	4	2	3	3	20	80			SA	2			2 A				
MRL 55	52C/11	granite	17.0	6.1	2	2	2	3	4	40		50	Qtz	SR-SA	1			1 SA				
MRL 62	52C/10	volcanic	24.8	3.6	2	3	1	1	1	20	80				1		1 A					
MRL 63	52C/10	volcanic	19.3	10.7	2	2	4	2	4	95	5				0							
MRL 64	52C/10	volcanic	21.1	5.8	1	2	3	3	1	30	70				4		1 SA		3 SR			
MRL 65	52C/10	volcanic	22.1	4.0	2	1	2	4	2	70	30				0							
MRL 66	52C/10	sheared volc	26.8	16.3	2	2	4	4	5	100					0							
MRL 67	52C/10	volcanic	24.7	9.2	1	2	2	2	3	10	90				0							
MRE 2	52C/10	metaseds	27.5	6.7	2	3	2	3	2	5	80	15		SA	1			1 SA				
MRE 3	52C/10	metaseds	28.5	14.0	4	1	4	3	5		5	95		A	2		1 SR	1 SA				
MRE 6	52C/09		24.8	11.6	3	3	3	4	2	20	75		Qtz	SA	0							
MRE 7	52C/09		26.0	6.9	2	2	2	3	3		65	35		A	5		2	1 SR	2 del,SA			
MRE 8	52C/09	metaseds	25.2	6.7						10	60	30		A	1				1 SR			
MRE 9	52C/16	migmatite	20.5	6.5	1	2	3	4	2	65	35			SR	2	1		1 SA				
MRE 10	52C/16	migmatite	22.3	7.8	4	4	3	3	3	10	90			R	0							
MRE 11	52C/16	migmatite	16.4	2.5	3	3	3	3	3		100			SR	2			1 A	1 R			
MRE 12	52C/16	migmatite	20.8	6.7	1	2	3	4	3	20	80			SR	1				1 SA			
MRE 15	52C/15	metaseds	17.5	4.8	2	4	3	3	4	70	30			A	2			2 R,SA				
MRE 16	52C/15		21.3	7.7	3	2	4	4	3	10	90			SR	0							
MRE 17	52C/14		16.9	5.6	2	3	2	4	4	30	60	10		SA	0							
MRE 18	52C/14	metaseds	16.4	6.0	3	4	4	3	5	50	50			SA	1			1 SR				
MRE 19	52C/14		22.5	8.0	3	1	4	3	3	35	60	5		SA	0							
MRE 21	52C/10		18.5	8.1	1	2	3	4	4	85	15			A	3	1	2 SA,SR					
MRE 22	52C/10		17.9	4.2	2	1	2	3	3		100			SR	1		1					
MRE 23	52C/10		17.1	3.2	2	2	2	3	4	95			Qtz	A	2		1	1 A				
MRE 24	52C/10	mafic volc	22.8	5.0	5	1	3	2	3	60	40			SA	4		2	2 SA,SR				
MRE 25	52C/10	volcanic	26.4	8.7	2	3	3	2	2	5	95			SA	3			2 R	1 R			
MRE 26	52C/10	sheared volc	16.8	4.8	4	0	2	1	2	20	80			SR	4		1 A	2 A,SA				1 (.6x.4)
MRE 28	52C/10	volcanic	21.6	9.1	2	1	2	4	5	95	5			A	0							
MRE 29	52C/10	mafic volc	22.1	8.2	2	3	2	4	4	60	30		Qtz		3		1	2 A,SA				
MRE 43	52C/14		22.2		2	2	3	3	2	15	85			SR	1					1 SA		
MRE 45	52C/14		22.7	6.4	2	1	2	3	2		100			R	0							
MRE 46	52C/14	migmatite	14.8	6.1	2	2	2	2	4	15	85			SA	0							
GB 123A	52F/03	metaseds	32.7	17.0	4	4	4	4	5	90	10				5		4 SA-SR	1 SA-SR				
GB 124	52F/03	metaseds	33.8	17.5	4	4	4	4	3	100					42	30 SA-SR	12 SA-SR					
GB 125	52F/02	mafic volc	31.2	9.2	2	4	4	2	2	50	50				0							
GB 126	52F/02	mafic volc	32.4	9.8	1	5	4	3	2	20	50	30			1			1 SA-SR				
GB 127	52F/02	mafic volc	38.4	13.9	2	5	4	4	4	25	75				2		1 SA-SR	1 SA-SR				
GB 128	52F/02	mafic volc	34.0	18.2	2	5	4	4	3	30	70				4	1		2 SA-SR	1			
GB 129	52F/02	mafic volc	35.2	8.5						60	40				4		3 SA-SR			1 SA-SR		
GB 130	52F/02	mafic volc	36.8	16.5	2	5	4	4	3	50	50				4		1 SA-SR	2 SA-SR	1 SA-SR			
GB 131	52F/02	mafic volc	35.0	20.3	1	5	5	4	5	70	25				5		2 SR-R	2 SR-R		1 SR-R		
GB 132	52F/02	mafic volc	40.3	9.2	1	5	3	3	3	70	25				[illegible]		1 SA-SR				1 SA-SR	
GB 133	52F/02	granite	35.2	19.2	3	5	4	4	3	50	50											
GB 134	52F/02	granite	35.9	8.1	4	5	2	2	3	25	70											
GB 135	52F/02	granite	34.3	14.5	2	5	2	3	2	20	80											
GB 136	52F/02	granite	33.8	8.5	3	5	3	4	2	30	70											
no. of samples			214	212						129	171	66			213	47	86	122	53	8	4	3
minimum value			0.0	0.5						0	0	0			0	1	1	0	1	1	1	1
maximum value			40.3	20.3						100	100	100			43	37	12	9	3	1	2	1
mean value			23.5	6.9						51	61	62			3	3	2	2	1	1	1	1
standard deviation			5.6	3.6						29	30	33			5	7	1	1	1	0	1	0
variance			30.8	13.0						864	915	1112			21	44	2	1	0	0	0	0
anomalous threshold			34.6	14.1						110	122	128			12	16	5	4	2	1	2	1

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Table 7
EMO AREA

C - compactness CS - clast size
O - oxidation CA - angularity
S - stoniness

SR - sub rounded
SA - sub angular
del - delicate

BULK TILL RECONNAISSANCE PROGRAM

SAMPLE No.	LOCATION N.T.S.	BEDROCK	WEIGHT (kg) Total	<6mm Frac.	C	O	S	CS	CA	Pebble Volc	Int	Sed	Other	Shape	TOTAL GOLD GRAINS	<.05 mm No. Shape	.05-.1mm No. Shape	.1-.2 mm No. Shape	.2-.3 mm No. Shape	.3-.4 mm No. Shape	.4-.5 mm No. Shape	>.5 mm No. Shape	Wgt. (gm.)	Mag %	Py %	Gar %	Misc.	UV lamp Sch	Zir	Rad	NOTES	NORMALIZED GOLD grains	NORMALIZED GOLD microgm
[illegible]																																	
F 93	52C/13	volcanic	26.5	8.6						60	40				4		1	3 2A, SR					31.1	20	4	tr		1	1	0	sdy, gvly till	4	10.6
F 94	52C/13	basalt	28.0	10.7						60	40		Qtz		4				1 A	3 2A, SA			40.4	20	tr	5		1	1	0	silty,gvly bsl tl	5	67.9
F 101	52C/13	mafic volc	21.4	8.9						70	30				2		1	1					40.2	10	5	5		1	1	0	bouldery basal till	3	29.4
F 102	52C/13	volcanic	28.0	12.4						80	20		Qtz		3			3 2A, del					20.0	15	5	5		1	1	0	cobbly gravelly basal till	4	4.6
F 103	52C/13		32.7	16.3						60	40	tr	Qtz		6	1	1 A	4 2A,SA,del					27.2	5	tr	15		1	2	0	wet sandy till	7	1.9
F 104	52C/13	basalt	23.9	8.2						60	40				4	1 SA	1 SA	1 SA		1 SA			46.2	20	tr	5		1	2	0	sdy, silty bsl tl maf. vol. o/c	5	32.1
F 107	52C/13		28.5	6.6						50	50				14		11 SA-SR	2		1			32.2	20	5	5		1	1	0	v. sandy till	13	25.0
F 108	52C/13		28.5	9.0						80	15		Qtz		4		1 SR	3 SR					46.1	15	5	10		1		0	silty, clayey till	4	14.9
F 109	52C/13	mafic volc	27.5	11.2						70	30		Qtz		1			1					27.9	10	5	5		1		0	good basal till	1	2.7
F 110	52C/13		29.5	5.6						40	60		Qtz		4		1 del	3 2A,del					41.6	20	tr	tr		1	1	0	sandy, gravelly till	3	4.5
F 111	52C/13	granidiorite	16.2	3.2						50	50				1			1 A					39.7	15	tr	tr		1	1	0	sdy slty till	2	5.5
S 1	52C/13	volcanic	24.8	2.8						50	50				4	1	2 A,A	1 A					48.4	10	5	5		2	2	0	clayey/sandy till; vol. o/c	4	4.0
S 2	52C/13	volcanic	32.0	10.9						30	70				6		2 A,A	4 4A					31.5	10	5			1	1	0	sandy, basal till volc. o/c	6	12.4
S 3	52C/13	volcanic	23.5	2.0						10	90				1			1 SR					54.4	60	15	5				0	ox. basal till; volc. o/c	1	2.9
S 4	52C/13	volcanic	26.0	15.3						60	40				4		3 3A	1 A					39.6	5	tr				1	0	grav. till; sdy; S OP Volc. o/c	7	9.9
S 5	52C/13	volcanic	36.0	17.0						50	50				7	1	2 A,A	3 A,A,SA	1 A				48.7	15	tr	15		1	1	0	sdy, grav. till N of volc. o/c	7	13.8
S 6	52C/13	volcanic	26.3	4.7						50	50				5	2	1 A	2 A,SA					32.1	25	tr	5			1	0	clayey basal till; volc. o/c	5	12.4
FRE 1	52C/13		24.6	6.5						70	30				1	1							41.6	5	tr	2		2	1	0	sdy/slty basal? till under tree	1	8.2
FRE 2	52C/13	granite	30.2	10.5						30	70				5	2	2			1			36.8	15	tr	5	Cpy	1	2	0	ox,slty bsl tl	5	27.5
FRE 3	52C/13	granite	25.0	6.4						40	60				3		1 A	1 A	1 A				48.0	20	5		Cpy	1	2	0	ox. silty basal till	3	19.9
FRE 4	52C/13	granite	26.5	9.3						50	50				3			1 A	2 A				38.8	5	tr	2		0	0	0	ox. silty basal till	3	9.1
FRE 5	52C/13		26.3	9.9						40	60				9	1	3 SA	4 R,R,A,A	1				22.5	85	3	tr		1	2	0	good basal till	11	25.5
FRE 6	52C/13	mafic volc	26.3	2.8						20	80				4	3		1 SR					34.6	30	tr	3	Cpy	1	1	0	bouldery silty clay rich till	3	20.4
FRE 7	52C/13	sheared volc	22.7	5.6						55	45				6	1 SR	1 SA	4 A,SR,SR					27.0	40	tr	tr		1	1	0	ox. silty basal till	7	14.6
FRE 8	52C/13	mafic volc	20.1	5.8						100					1			1 SA					15.5	2	tr	tr		1	1	0	cobbley silty basal till	1	187.6
FRE 9	52C/13	volcanic	22.0	7.6						70	30												18.1					0	0	0	bouldery silty basal till	0	2.8
FRE 10	52C/13	basalt	27.0	9.9						45	55				4				4 A, 3SA				46.1	15	tr	10		0	0	0	gravelly basal till	5	18.5
FRE 12	52C/13	volcanic	23.4	5.9						20	80				3			2 SR,SA	1 SA				16.7	15	5	7		0	1	0	ox. silty bouldery till	3	27.2
FRE 13	52C/13		23.7	2.6						60	40				0								36.7	15	1	4		1	2	0	sandy silty outwash? till	0	12.7
FDER 1	52F/04	basalt	37.0	14.3						40	60				3			1 SA		2 A,SA			33.0	10	5	5		1	2	0	ox.clay rich tl	3	37.6
FDER 2	52F/04	mafic volc	29.0	11.1						35		35			2			2 SA					23.0	40		5		1	1	0	ox./unox. till	2	12.7
FDER 3	52F/04	mafic volc	32.3	9.0						70	30				4	2 SR,SA	1 SA		1 SA				28.4	10	tr	tr		1	1	0	ox. basal till	3	32.2
FDER 4	52F/04	basalt	32.0	13.5						80	10				7	3		2 SA	2 R,SR				32.8	20	tr	tr		1	1	0	ox.basal tl	8	29.6
FDER 5	52F/04	basalt	27.3	10.5						35	65				3				2 SA,del	1 SA			16.3	20	1	10		1	2	0	ox. sdy bsl till	4	69.5
FDER 6	52F/04	mafic volc	25.7	10.6						80	20				0								36.4	5	3	tr		1	1	0	ox. sandy/clay basal till	0	1.8
FDER 7	52F/04	mafic volc	28.0	6.1						60	40				6		2 SR	2 SR	2 SR				24.4	10	tr	10		1	2	0	sandy/silty basal till	5	18.3
FDER 8	52F/04		30.0	14.1						80	20				2			2 SA					33.3	10	3	5		0	1	0	sandy/gvly ox. ablation? till	3	0.6
FDER 9	52F/04		26.1	4.6						35	65				9		2 SR	3 A,SA	4 SR,SA,A				46.0	60	tr	5		1	1	0	sandy ox. till	8	84.6
FDER 10	52F/04		23.5	3.6						70	30				11		7 SR,SA	2 A,SA	2 del,SR				29.7					1	2	0	clay-rich ox. till	11	13.7
FDER 11	52F/04		30.0	5.4						100					2			1 SA	1 SA				26.2	15	tr	10		2	2	0	clay-rich ox. till	2	38.1
FDER 12	52F/04	mafic volc	26.8	11.9						85	15				3			3 A,R,SA					16.7	75	tr	5		0	1	0	sandy/clay ox. till	4	40.0
FTRY 1	52F/04		32.4	8.9						90	10				7		1 A	6 SA					39.1	20	tr	40		1	2	0	sandy, clay-rich till	6	3.3
FTRY 2	52F/04	mafic volc	26.4	6.1						60	40				9	4 A	1 R	3 A	1 SR				21.4	65	5	2		2	2	0	clay-rich,unox-ox. bsl tl	9	34.4
FTRY 3	52F/04	mafic volc	28.5	8.1						80	20				13		1 R	12 R,A					42.2	2				1	1	0	sandy, ox. basal till	13	8.8
FTRY 4	52F/04	mafic volc	26.4	7.2						50	40	10			3			1 A	2 SR				38.9	10	tr	tr		1	2	0	sandy some clay, basal till	3	4.1
FTRY 5	52F/04	basalt	29.0	14.4						40	10	50			2			1 SA	1 SA				39.1	10	tr	5		1	1	0	sdy bsl tl	3	27.4
FTRY 6	52F/04	basalt	33.7	15.0											5		1 R	2 A	1 SA	1 SA			20.9	15	5	5		1	1	0	sdy,ox.bsl tl	5	77.0
FTRY 7	52F/04	basalt	27.0	9.2						80	20				12	2	3 SR	6 3SA,3SR	1 A				37.3	10	tr	tr		1	1	0	sdy,ox.bsl tl	13	20.2
FTRY 8	52F/04	mafic volc	28.0	10.3						90	10				4		1 SR	2 A,SA				1 R .8x.3	22.2	5	tr	tr		1	1	0	sdy gvly tl	5	159.8
FTRY 9	52F/04	mafic volc	29.5	9.0						80	20				0								44.0	10		5		1	1	0	sdy, ox. basal till	0	10.8
FTRY 10	52F/04	mafic volc	37.9	13.8						100					8			3	3 SR	2 SA			32.1					2	1	0	sdy, ox. basal till	7	83.5
FTRY 11	52F/04	mafic volc	22.1	6.9						40	20	40			4			1	3 SR				31.6	10	tr	5		1	0	0	unox. basal, sdy till	5	2.1
FTRY 12	52F/04	mafic volc	28.0	10.5						90	20				0								27.8	15		tr		1	1	0	unox. sandy basal till	0	3.6
FTRY 13	52F/04		28.0	8.4						25	25	50			10	2	2	5 d,3A,SR	1 A				28.1	5	tr	10		2	2	0	clay rich, unox. till	10	33.3
FTRY 14	52F/04	basalt	24.3	7.2						40	20	40			7	1 SA		5 R,A,SA	1 A				42.2					1	1	0	unox. sdy bsl till	8	24.3
FTRY 15	52F/04		29.0	12.1						100					1			1 SA					34.3	60	3	tr		1	1	0	unox. till	1	8.5
FTRY 16	52F/04	metaseds	25.8	5.7						100					1			1 R					27.3	20		5		0	1	0	drk brn,unox.sdy-cly bsl tl	1	5.3
FTRY 17	52F/04		23.0	9.6						50	50				2		1 SR	1 SA					34.4	15	2	tr		0	0	0	unox.sdy till above clay	3	27.7
FTRY 18	52F/04		28.5	12.4						40	50	10			7	1 SA	1 SA	3 A,SA,SR	2 SA				27.7	15	tr	5		1	2	0	unox. sdy,gvly ablation till	9	40.4
FTRY 19	52F/04	felsic volc	31.6	9.8						60	40				2			2 A,SR		1 del			40.1	30	5	10		1	2	0	sdy, gvly cly	2	82.3
FTRY 20	52F/04		21.2	6.3						80	20				5	4		1					34.2	10	tr	5		1	2	0	sandy, clayey, unox.	7	17.8
FTRY 21	52F/04		22.3	8.4						60	40				5		3	2 SR,SA					28.9	5	tr	5		0	1	0	med.ox.basal till	7	21.8
FTRY 22	52F/04	granite	21.9	8.5						40	60				0								45.5	30	tr	tr		0	0	0	silty, unox. & gvly	0	22.7
FTRY 23	52F/04	migmatite	24.4	6.4						50	50				1				1 SA				30.7	10	tr	tr		0	0	0	med.ox.bsl	1	18.2
FTRY 24	52F/04	gabbro	27.0	6.0						30	70				2					2 SR			27.5	10	0	tr		1	2	0	silty ox. basal	2	54.9
FPIP 1	52F/04	volc/granite	29.0	9.1						50	50				2			2 SA,A					45.2	40	2	tr		1	1	0	sandy, ox. till	2	20.8
FPIP 2	52F/04		28.0	2.1						60	40				3	1	2						30.5	5		tr		1	2	0	sandy-clay-rich unox. till	2	10.9
FPIP 3	52F/04	mafic volc	26.5	5.0						90	10				0								31.1	10		tr		1	1	0	ox.basal till	0	9.9
FPIP 4	52F/04	mafic volc	19.2	7.9						70	30				1					1 SR			33.4	15	tr	3		1	1	0	sdy,ox. basal till	2	52.6
FPIP 5	52F/04	mafic volc	25.5	4.4						50	50				7	4	1 A	2 A,SR					24.8	35	2	10					sdy, slty, ox.unox. basal till	7	4.6
FPIP 6	52F/04		27.2	5.7						60	40				1			1 SR					34.6	5	tr	2		1	2	0	sandy, ox. unox. basal till	1	8.1
FPIP 7	52F/04	granite	27.0	8.9						20	80				0								14.9	10	2	5		1	1	0	ox. basal till	0	59.2
FPIP 8	52F/04	mafic volc	26.2	5.6						40	60				5			3 2 SA,SR	1 SA	1 A			21.5					0	2	0	ox. sdy bslt till	5	5.1
FPIP 9	52F/04		25.0	6.6						60	40				3		1 A	2 SA,A					19.3	77	3	10		2	2	0	unox. basal till	3	4.6
FPIP 10	52F/04		28.0	3.2						60	40				3	1		2					30.4	30	tr	10		1	2	0	sandy, silty unox. basal till	2	8.8
FPIP 11	52F/04	mafic volc	26.4	5.9						40	60				1	1		1 SR					25.6	30	3	5		0	1	0	unox., ox. sandy basal till	1	20.6
FPIP 12	52F/04	volc/intrus	27.0	2.6						60	40				9	3	2	3 A,A,SR	1 SA				34.9	20	tr	10		1	2	0	ox.sandy, ox. basal till	7	34.9
[illegible]																																	

CONCENTRATE ASSAYS / CHARACTER SAMPLES / NORMALIZED VALUES (normalized to 20 kg. of -6 mm material)

Sample	Au ppb det 5	Au mgn	Ag ppm 5	As ppm 2	Ba ppm 200	Br ppm 5	Ca % 1	Co ppm 5	Cr ppm 10	Cs ppm 2	Fe % 0.0	Hf ppm 1	Hg ppm 5	Ir ppb 40	Mo ppm 20	Na ppm 500	Ni ppm 200	Rb ppm 50	Sb ppm 0.2	Sc ppm 0	Se ppm 20	Sr % 0.2	Ta ppm 1	Th ppm 1	U ppm 0.5	W ppm 4	Zn ppm 200	La ppm 1	Ce ppm 3	Nd ppm 10	Sm ppm 0.1	Eu ppm 0.2	Tb ppm 2	Yb ppm 0.2	Lu ppm 0.1	Mass gm	As ppm 1.0	Sb ppm 0.2	Cu ppm 1	Zn ppm 1	Ag ppm 0.1	Pb ppm 2	Au ppb 5	GOLD grains	GOLD micrograms	GOLD RATING
[illegible]	1020	29.3	3	4	560	3	1	14	210	1	6.6	84	3	20	10	19100	100	78	0.1	32	10	0.1	1	53	6	2	100	130	200	83	13.0	2.2	1	7.4	1.5	28.73	3.1	0.1	13	39	0.1	9	3	4	39	13
[illegible]	135	4.6	3	2	100	3	3	28	660	1	19.9	72	3	20	10	14300	100	25	0.3	21	10	0.1	1	26	4	8	100	75	120	47	8.9	2.2	1	4.3	1.0	34.07	1.9	0.1	10	30	0.1	3	3	2	5	3
[illegible]	400	18.1	3	1	400	3	2	18	300	1	15.6	43	3	20	10	16000	100	25	0.2	16	10	0.1	1	13	2	14	100	43	70	25	6.0	1.7	1	3.0	0.6	45.28	3.0	0.1	16	48	0.1	3	3	3	19	9
[illegible]	101	4.5	3	1	350	3	3	15	300	1	8.8	42	3	20	10	15500	100	25	0.1	17	10	0.1	2	36	3	14	100	28	40	19	4.7	1.4	1	4.1	0.9	44.70	2.2	0.1	14	68	0.1	7	3	1	5	2
[illegible]	12	0.3	3	3	450	3	5	21	320	1	11.8	69	3	20	10	15400	100	25	0.3	22	10	0.1	1	14	4	18	100	34	55	26	5.8	2.0	1	6.1	1.1	28.13	1.2	0.1	9	40	0.1	3	3	0	0	0
[illegible]	29	1.3	3	2	360	3	1	17	350	1	11.4	34	3	20	10	15500	100	25	0.3	16	10	0.1	1	11	3	7	100	30	40	10	4.1	1.2	1	3.6	0.8	46.07	1.3	0.1	5	31	0.1	3	3	2	1	2
[illegible]	95	3.9	3	1	380	3	3	17	470	3	11.7	29	3	20	10	18500	100	25	0.2	14	10	0.1	1	17	3	12	100	40	54	34	5.1	1.3	1	2.8	0.6	41.04	3.1	0.1	9	125	0.1	4	55	3	4	5
[illegible]	90	3.1	3	3	650	3	6	86	1900	1	9.1	55	3	20	10	11100	100	25	0.4	24	10	0.1	1	9	6	2	100	23	44	40	9.8	3.3	1	3.8	0.8	34.69	3.4	0.5	14	126	0.1	11	3	1	3	2
[illegible]	792	25.2	3	3	460	3	1	18	310	1	11.5	110	3	20	10	16200	100	25	0.1	21	10	0.1	1	19	4	2	100	50	78	42	7.2	1.9	1	6.4	1.4	31.83	2.1	0.1	24	56	0.1	4	3	0	25	5
[illegible]	440	16.2	3	1	500	3	1	21	560	1	15.3	53	3	20	10	15200	100	93	0.1	22	10	0.1	4	21	3	2	100	46	68	40	5.7	1.0	1	6.4	1.3	36.86	1.1	0.1	8	49	0.2	4	3	1	14	7
[illegible]	55	2.1	3	2	590	3	6	23	440	1	11.6	67	3	20	10	15300	100	25	0.1	25	10	0.1	1	23	3	2	100	68	93	67	7.7	1.7	1	5.4	1.1	38.67	2.1	0.1	17	46	0.1	5	3	0	3	1
[illegible]	700	26.1	3	4	100	3	1	26	470	1	16.8	29	3	20	10	12500	100	25	0.3	18	10	0.1	1	22	0	2	100	52	74	36	5.8	1.2	1	3.7	0.8	37.24	6.0	0.1	65	60	0.1	4	3	4	27	11
[illegible]	84	4.4	3	1	420	3	1	28	260	1	10.7	45	3	20	10	14300	100	25	0.3	18	10	0.1	1	14	0	5	100	64	110	63	11.0	2.8	1	4.1	0.8	52.13	3.3	0.1	28	56	0.2	4	3	1	6	2
[illegible]	90	2.5	3	1	530	3	4	19	390	1	15.2	30	3	20	10	13600	100	25	0.3	19	10	0.1	1	19	4	2	100	50	73	38	6.1	1.3	1	3.4	0.7	27.59	4.7	0.1	10	79	0.3	8	3	0	3	1
[illegible]	76	4.0	3	1	430	3	1	22	390	1	14.2	39	3	20	10	14300	100	25	0.5	18	10	0.1	1	21	4	5	100	59	82	27	6.7	0.1	1	3.8	0.8	53.11	1.9	0.1	15	32	0.1	1	3	2	4	2
[illegible]	25	0.8	3	2	100	3	1	36	270	1	17.6	75	3	20	10	11500	100	25	0.1	18	10	0.1	3	14	6	2	100	45	79	43	7.5	2.2	1	4.9	0.9	33.97	4.5	0.1	20	95	0.1	5	3	0	1	0
[illegible]	222	7.0	3	1	420	3	5	19	260	3	10.2	60	3	20	10	16300	100	25	0.1	23	10	0.1	3	24	3	2	100	80	140	100	13.0	3.0	1	4.7	1.0	31.33	3.6	0.1	20	52	0.1	3	3	1	8	2
[illegible]	94	4.3	3	1	320	3	1	17	300	1	11.2	37	3	20	10	15100	100	25	0.1	18	10	0.1	1	20	3	2	100	61	87	61	7.4	1.5	1	3.3	0.7	45.92	3.4	0.1	18	25	0.1	3	3	2	5	4
[illegible]	132	6.1	3	4	420	3	1	23	320	1	13.4	43	3	20	10	15400	100	25	0.7	18	10	0.1	2	17	0	9	100	53	86	51	8.0	1.8	1	3.6	0.7	46.00	3.1	0.1	31	34	0.1	1	3	6	9	5
[illegible]	100	4.1	3	1	100	3	2	19	450	1	14.8	41	3	20	10	14300	100	25	0.1	16	10	0.1	4	24	4	2	100	63	91	40	7.1	1.5	1	3.3	0.7	40.68	3.3	0.1	19	22	0.1	1	3	2	4	4
[illegible]	48	1.7	3	4	500	3	1	29	530	1	23.7	51	3	20	10	15300	100	89	0.1	22	10	0.1	1	21	4	11	100	57	94	49	7.6	1.7	1	4.5	0.9	34.49	4.3	0.1	11	27	0.1	4	3	0	2	1
[illegible]	299	11.1	3	1	100	3	3	23	640	2	25.3	84	3	20	10	14900	100	25	0.6	24	10	0.1	4	30	4.20	2	100	75	120	41	8.6	1.9	1	5.7	1.2	37.23	1.6	0.1	11	93	0.1	5	3	3	12	5
[illegible]	1270	48.6	3	1	360	3	1	21	600	1	19.9	230	3	20	10	12600	100	25	0.1	40	10	0.1	5	64	9.80	2	100	170	240	94	18.0	3.8	3	11.4	2.3	38.30	2.5	0.1	5	58	0.1	1	3	8	47	13
[illegible]	324	14.5	3	1	100	3	3	31	610	1	25.6	33	3	20	10	14000	100	25	0.4	27	10	0.1	1	7	3.50	2	100	28	47	25	4.5	1.4	1	4.1	0.7	44.70	3.2	0.1	65	79	0.1	5	3	5	26	8
[illegible]	90	3.7	3	1	400	3	2	12	220	1	9.3	74	3	20	10	19700	100	25	0.1	21	10	0.1	4	27	2.60	2	100	65	93	41	7.2	1.9	1	4.8	1.0	41.27	1.7	0.1	8	72	0.1	3	3	3	4	2
[illegible]	2800	53.1	3	1	690	3	7	22	430	3	12.8	480	3	20	10	22300	100	25	0.1	39	10	0.1	10	55	15.00	2	100	150	250	130	20.0	6.0	3	17.4	3.6	18.98	1.3	0.1	12	55	0.1	1	3	2	43	15
[illegible]	87	3.9	3	1	390	3	2	19	340	1	16.3	50	3	20	10	18100	100	25	0.1	18	10	0.1	3	20	3.10	2	100	56	88	40	7.2	1.9	1	3.6	0.8	45.00	1.6	0.1	6	66	0.1	4	3	0	5	1
[illegible]	390	20.8	3	1	220	3	1	35	700	1	38.7	58	3	20	10	6910	100	25	0.1	14	10	0.1	6	23	0.25	2	100	58	82	24	4.9	1.2	1	4.0	0.8	53.20	3.7	0.1	15	121	0.1	5	3	2	20	6
[illegible]	510	16.2	3	6	100	3	1	23	540	2	22.9	140	3	20	10	10300	100	25	0.5	29	10	0.1	4	57	7.70	2	100	140	210	73	13.0	2.2	1	9.3	1.9	31.75	3.4	0.1	14	100	0.1	7	3	2	15	5
[illegible]	3	0.1	3	1	400	3	3	20	340	1	13.1	56	3	20	10	12900	100	25	0.1	29	10	0.1	3	39	3.90	8	100	110	160	58	9.8	1.6	1	7.6	1.5	37.32	5.0	0.5	10	81	0.1	9	3	1	0	1
[illegible]	122	6.1	3	9	270	3	1	78	570	1	15.3	25	3	20	10	12700	100	25	0.1	16	10	0.1	2	7	1.40	2	100	28	42	24	4.1	1.3	1	3.4	0.6	49.71	3.8	0.5	32	119	0.1	6	3	3	8	5
[illegible]	3	0.1	3	1	220	3	1	180	75	2	13.2	5	3	20	10	16000	100	25	0.5	29	10	0.1	1	2	0.25	2	100	10	19	25	3.5	1.2	1	5.3	0.9	27.77	2.5	0.1	53	74	0.1	1	3	33	1	3
[illegible]	165	6.5	3	1	100	3	4	22	890	3	7.9	63	3	20	10	18100	100	25	0.3	28	10	0.1	3	13	2.50	2	100	49	73	47	6.7	1.8	1	6.1	1.1	39.54	3.6	0.6	58	110	0.1	4	8	0	5	1
[illegible]	105	4.0	3	6	260	3	3	20	530	1	8.7	23	3	20	10	18200	100	25	0.4	20	10	0.1	2	7	1.10	2	100	28	43	24	4.2	1.1	1	3.1	0.6	38.32	6.6	0.1	25	83	0.1	3	3	1	6	2
[illegible]	782	27.4	3	10	100	3	2	56	840	1	15.7	33	3	20	10	13100	100	25	0.3	24	10	0.1	2	7	1.80	8	100	32	49	27	5.3	1.6	1	4.7	0.8	35.09	4.4	0.1	51	76	0.1	5	3	2	30	12
[illegible]	61	2.4	3	7	420	3	1	19	340	1	7.7	24	3	20	10	19800	100	25	0.4	19	10	0.1	2	5	1.80	2	100	23	38	17	3.7	1.2	1	3.2	0.6	38.55	3.8	0.1	16	68	0.1	1	3	2	3	1
[illegible]	833	29.3	3	7	100	3	2	22	510	1	14.6	28	3	20	10	15700	100	25	0.1	23	10	0.1	3	15	2.20	2	100	43	64	42	6.0	1.4	1	4.3	0.9	35.23	4.8	0.1	25	62	0.1	1	3	5	27	10
[illegible]	226	10.5	3	13	100	3	2	24	510	1	16.8	36	3	20	10	13600	100	25	0.8	25	10	0.1	17	20	3.80	9	100	67	90	40	8.2	1.5	1	6.4	1.2	46.61	5.7	0.1	41	47	0.1	1	3	3	10	5
[illegible]	792	30.0	3	10	220	3	2	31	370	1	16.4	27	3	20	10	13200	100	25	0.1	25	10	0.1	9	17	4.10	2	100	55	80	56	7.5	1.3	1	5.8	1.1	37.02	3.1	0.1	19	65	0.1	3	3	3	35	10
[illegible]	311	13.9	3	5	100	3	1	22	390	1	15.5	43	3	20	10	13200	100	25	0.1	25	10	0.1	5	21	0.25	2	100	68	100	53	8.4	1.4	1	5.6	1.1	44.33	4.5	0.1	33	36	0.1	3	3	10	13	9
[illegible]	166	6.2	3	8	260	3	2	22	340	1	16.4	35	3	20	10	14000	100	51	0.4	30	10	0.1	6	20	3.50	2	100	58	94	43	8.3	1.8	1	7.5	1.3	37.23	4.2	0.1	22	59	0.1	3	3	8	7	11
[illegible]	963	30.7	3	8	100	3	3	24	430	1	18.5	35	3	20	10	15100	100	25	0.5	22	10	0.1	6	18	0.25	2	100	58	85	45	7.6	1.2	1	5.6	1.1	31.84	5.0	0.1	33	42	0.1	1	3	3	27	13
[illegible]	556	24.6	3	6	100	3	3	21	430	1	17.1	51	3	20	10	13400	100	25	0.1	22	10	0.1	5	22	0.25	2	100	73	100	63	9.2	1.5	1	6.3	1.3	44.23	4.1	0.1	23	34	0.1	3	3	4	22	7
[illegible]	299	12.0	3	11	100	3	4	21	380	1	14.0	77	3	20	10	17500	100	25	0.1	23	10	0.1	4	20	3.20	2	100	72	110	55	9.8	2.0	1	8.2	1.5	40.23	2.7	0.1	25	52	0.1	1	3	0	10	2
[illegible]	568	23.7	3	14	100	3	1	31	360	1	17.0	33	3	20	10	15700	100	25	0.5	22	10	0.1	3	15	3.30	2	100	51	75	58	6.8	1.4	1	5.3	1.0	41.67	5.7	0.1	30	67	0.1	3	3	2	23	17
[illegible]	208	8.7	3	10	360	3	1	24	330	1	19.7	27	3	20	10	14400	100	25	0.1	20	10	0.1	4	12	2.50	2	100	42	72	39	7.2	1.3	1	5.0	1.0	41.91	4.2	0.1	31	66	0.1	4	3	1	10	3
[illegible]	50	1.6	3	10	290	3	2	35	270	1	23.8	30	3	20	10	15300	100	25	0.1	25	10	0.1	3	10	1.90	9	100	31	60	28	6.0	1.4	1	6.0	1.2	32.57	4.2	0.1	44	85	0.2	6	3	4	2	16
[illegible]	148	6.2	3	1	100	3	1	23	440	1	22.4	80	3	20	10	12600	100	25	0.1	32	10	0.1	6	26	4.90	2	100	89	140	50	11.0	2.3	1	8.6	1.7	41.82	2.4	0.1	27	25	0.1	1	3	2	6	3
F 93	304	9.5	3	8	100	3	1	29	450	1	28.9	67	3	20	10	11800	100	25	0.4	27	10	0.1	4	23	3.70	7	100	66	110	45	8.6	1.8	1	8.3	1.5	31.30	3.7	0.1	36	57	0.1	4	3	4	11	6
F 94	1450	58.8	3	8	100	3	1	28	330	1	23.7	29	3	20	10	13100	100	25	0.4	23	10	0.1	6	18	2.70	2	100	51	84	32	6.2	1.0	1	4.9	1.0	40.52	3.6	0.6	20	77	0.2	6	3	5	68	28
F 101	458	18.4	3	1	100	3	4	18	210	1	11.3	29	3	20	10	13500	100	25	0.3	33	10	0.1	4	12	2.40	53	100	39	72	39	7.6	1.7	1	5.9	1.1	40.15	2.6	0.1	22	58	0.3	4	3	3	29	7
F 102	119	3.6	3	3	330	3	3	17	250	1	10.3	50	3	20	10	17600	100	25	0.3	29	10	0.1	8	24	4.30	19	100	72	110	49	8.7	1.5	1	6.0	1.1	29.91	10.0	0.1	75	43	0.1	5	3	4	5	4
F 103	58	1.6	3	3	100	3	5	16	210	1	9.4	42	3	20	10	18200	100	25	0.4	34	10	0.1	5	14	2.50	2	100	45	79	50	8.6	2.0	1	6.3	1.2	27.25	1.9	0.1	37	58	0.1	4	3	7	2	5
F 104	547	25.2	3	5	100	3	2	25	290	1	16.7	28	3	20	10	13100	100	25	0.3	27	10	0.1	4	14	3.10	11	100	47	76	29	6.3	1.3	1	5.4	1.0	46.06	1.9	0.1	35	47	0.1	3	3	5	32	12
F 107	842	27.4	3	10	260	3	1	35	780	1	28.1	76	3	20	10	10200	100	25	0.4	36	10	0.1	8	26	4.00	10	100	85	130	47	9.6	2.2	1	8.5	1.6	32.50	1.9	0.1	26	30	0.1	1	38	13	25	18
F 108	315	14.5	3	10	100	3	4	26	340	1	16.6	31	3	20	10	9140	100	25	0.3	32	10	0.1	3	14	2.10	5	100	42	61	28	5.5	1.3	1	5.2	1.0	46.09	3.4	0.1	23	48	0.1	1	12	4	15	7
F 109	79	2.2	3	10	100	3	2	27	380	1	17.7	39	3	20	10	12200	100	25	0.4	34	10	0.1	4	13	2.00	2	100	45	75	33	6.6	1.5	1	5.7	1.1	27.68	3.4	0.1	52	49	0.1	1	77	1	3	4
F 110	129	5.4	3	11	100	3	1	29	330	1	23.6	32	3	20	10	13000	100	25	0.3	24	10	0.1	5	14	2.10	55	100	43	65	28	5.6	1.3	1	4.7	0.9	41.58	3.7	0.1	30	38	0.1	1	3	3	4	4
F 111	90	3.6	3	7	530	3	3	19	270	1	11.7	22	3	20	10	13000	100	25	0.5	26	10	0.1	3	11	1.7	2	100	33	47	36	5.1	1.1	1	4.7	0.9	39.57								2	5	2
S 1	92	4.4	3	3	100	3	1	11	340	1	5.1	29	3	20	10	18200	100	25	0.6	19	10	0.1	3	11	0.3	2	100	37	51	45	4.8	1.1	1	3.2	0.7	48.32	8.1	0.1	17	30	0.5	1	3	4	4	3
S 2	419	13.1	3	12	100	3	3	24	520	1	17.2	44	3	20	10	12700	100	25	0.6	27	10	0.1	4	19	4.3	24	100	58	88	44	7.4	1.4	1	6.5	1.1	31.17	4.4	0.1	17	70	0.2	3	3	6	12	8
S 3	58	3.1	3	1	240	3	2	120	2700	1	40.3	2	3	20	10	2880	100	25	0.5	12	10	0.1	1	1	0.3	2	320	8	15	5	2.9	1.3	1	2.1	0.3	53.99	1.4	0.1	75	70	0.2	1	3	1	3	2
S 4	135	5.3	3	8	100	3	1	25	540	1	12.7	19	3	20	10	16900	100	70	0.1	22	10	0.1	3	11	0.3	2	100	38	60	5	5.7	1.0	1	4.8	0.9	39.24	3.1	0.1	22	95	0.1	6	219	7	10	11
S 5	271	13.1	3	6	300	3	1	21	530	1	12.5	21	3	20	10	18100	100	25	0.3	18	10	0.1	3	12	2.8	10	100	39	58	35	4.9	1.1	1	3.0	0.6	48.33	4.6	0.1	57	84	0.1	1	3	7	14	9
S 6	423	13.4	3	1	100	3	5	26	1700	1	18.0	71	3	20	10	13000	100	25	0.1	31	10	0.1	6	32	7.4	2	100	95	140	86	13.0	2.5	2	7.5	1.4	31.72	1.5	0.1	6	35	0.1	1	3	5	12	6
FRE 1	179	7.4	3	9	100	3	2	19	350	1	14.6	23	3	20	10	13200	100	25	0.5	24	10	0.1	3	18	2.4	39	100	55	81	49	7.3	1.3	1	5.3	1.0	41.55	3.5	0.1	21	43	0.1	7	3	1	8	2
FRE 2	737	27.0	3	7	100	3	1	18	540	1	19.3	34	3	20	10	12400	100	25	0.3	28	10	0.1	8	28	3.8	13	100	81	120	68	9.3	1.4	1	6.9	1.3	36.70	5.5	0.1	43	50	0.1	6	3	5	27	11
FRE 3	386	18.5	3	7	220	3	2	18	310	1	13.0	32	3	20	10	13200	100	25	0.3	24	10	0.1	5	17	2.4	6	100	56	82	48	7.4	1.3	1	5.4	1.0	47.89	6.0	0.1	30	37	0.3	5	3	3	20	8
FRE 4	201	7.8	3	5	360	3	3	20	280	1	13.3	21	3	20	10	13800	100	25	0.4	22	10	0.1	1	13	2.9	17	100	40	58	33	5.7	0.7	1	4.3	0.8	38.73	5.5	0.1	46	58	0.3	7	6	3	9	7
FRE 5	934	20.9	3	8	100	3	1	27	620	1	25.7	63	3	20	10	10800	100	25	0.7	32	10	0.1	8	39	7.5	130	100	120	180	110	15.0	2.3	2	8.9	1.7	22.42	2.7	0.1	16	55	0.2	6	3	11	26	13
FRE 6	696	24.0	3	3	100	3	1	17	640	1	20.6	63	3	20	10	11700	100	25	0.1	27	10	0.1	6	30	3.4	2	100	90	130	62	10.0	1.5	1	7.8	1.4	34.44	2.6	0.1	14	47	0.1	5	3	3	20	6
FRE 7	465	12.5	3	5	270	3	1	19	280	1	13.2	36	3	20	10	19800	100	25	0.1	19	10	0.1	6	13	0.3	2	100	44	75	44	6.8	1.5	1	4.0	0.9	26.89	2.4	0.1	75	24	0.2	4	3	7	15	8
FRE 8	8680	134.1	3	1	370	3	5	22	240	1	8.1	42	3	20	10	14200	100	25	0.1	29	10	0.1	1	22	4.5	2	100	67	110	60	10.0	2.0	1	5.8	1.1	15.45	2.4	0.1	37	56	0.2	13	3	1	188	39
FRE 9	111	2.0	3	6	430	3	7	23	240	3	10.6	26	3	20	10	12300	100	25	0.1	35	10	0.1	1	10	0.3	2	100	37	71	63	10.0	2.3	1	5.5	1.0	17.88	6.3	0.5	44	58	0.1	13	3	0	3	1
FRE 10	344	15.8	3	5	280	3	3	24	220	1	11.0	11	3	20	10	17300	100	25	0.3	16	10	0.1	2	5	0.3	8	100	20	36	28	4.2	1.0	1	2.7	0.5	45.93	3.0	0.1	33	51	0.1	11	3	5	18	12
FRE 12	1430	23.8	3	1	100	3	1	35	850	1	33.1	80	3	20	10	7670	100	25	0.8	41	10	0.1	9	43	5.4	23	100	120	190	100	17.0	2.8	1	12.6	2.6	16.65	2.1	0.1	10	91	0.6	7	3	3	27	10
FRE 13	365	13.3	3	7	100	3	1	23	470	1	16.3	41	3	20	10	14700	100	25	0.4	25	10	0.1	6	17	3.3	2	100	55	86	50	8.0	1.8	1	5.5	1.0	36.57	2.3	0.1	35	39	0.1	4	3	0	13	3
FDER 1	1300	42.7	3	1	100	3	1	19	230	1	16.6	37	3	20	10	11700	100	25	0.1	28	10	0.1	4	34	3.4	11	100	79	120	63	9.4	1.3	1	7.1	1.4	32.83	2.1	0.1	14	40	0.1	6	3	3	38	17
FDER 2	497	11.4	3	7	360	3	1	22	460	1	22.0	44	3	20	10	10700	100	25	0.1	29	10	0.1	6	31	3.7	2	100	80	140	67	9.6	1.4	1	6.9	1.5	22.92	5.5	0.4	86	62	0.1	7	3	2	13	5
FDER 3	1330	37.5	3	4	320	3	1	25	360	2	18.4	17	3	20	10	15600	100	25	0.4	19	10	0.1	4	17	4.1	10	100	46	76	34	5.7	1.2	1	3.7	0.7	28.17	13.0	0.1	64	66	0.1	5	3	3	32	10
FDER 4	835	27.3	3	4	100	3	1	20	310	1	18.6	25	3	20	10	12800	100	25	0.1	26	10	0.1	7	27	0.3	2	100	65	100	60	7.3	1.1	1	6.1	1.1	32.74	4.6	0.1	89	44	0.1	6	3	8	30	13
FDER 5	3600	58.4	3	6	100	3	1	34	640	1	32.8	55	3	20	10	6660	100	25	0.1	44	10	0.1	7	54	6.8	2	100	130	200	130	15.0	2.0	3	13.0	2.2	16.21	4.3	0.1	55	46	0.2	4	3	4	69	22
FDER 6	37	1.3	3	3	450	3	1	21	200	2	12.8	34	3	20	10	15800	100	25	0.4	22	10	0.1	3	22	3.3	2	100	61	90	53	7.9	1.2	1	4.3	0.9	36.24	4.6	0.1	45	72	0.1	6	3	0	2	0
FDER 7	816	20.0	3	1	100	3	1	26	670	1	30.9	89	3	20	10	9190	100	25	0.1	41	10	0.1	10	120	11.0	23	100	300	420	230	29.0	2.2	5	11.5	2.2	24.50	3.7	0.1	31	24	0.1	3	3	5	18	11
FDER 8	14	0.5	3	14	500	3	6	30	210	3	12.9	19	3	20	10	15400	200	25	0.9	27	10	0.1	2	9	0.3	2	100	29	54	15	6.1	1.4	1	4.9	0.9	33.15	8.4	0.1	57	136	0.2	6	3	3	1	2
FDER 9	1980	90.9	3	7	360	3	1	21	450	1	24.7	26	3	20	10	9460	100	25	0.5	18	10	0.1	9	53	4.3	2	100	120	170	87	11.0	1.0	1	4.3	0.7	45.92	4.9	0.1	21	31	0.1	4	71	8	85	31
FDER 10	457	13.7	3	1	100	3	1	15	350	1	11.1	120	3	20	10	10900	100	25	0.6	59	10	0.1	12	100	10.0	32	100	280	410	220	29.0	2.8	1	15.9	3.2	29.88	2.7	0.1	9	19	0.1	5	3	11	14	12
FDER 11	1790	46.9	3	6	100	3	1	35	750	1	34.1	71	3	20	10	7260	100	25	0.7	40	10	0.1	12	91	8.9	24	100	220	320	160	23.0	2.5	1	10.0	2.2	26.18	3.7	0.1	17	37	0.1	3	3	2	38	11
FDER 12	2170	29.8	3	7	100	3	1	30	730	1	25.1	200	3	20	10	10500	100	25	0.1	48	10	0.1	23	200	20.0	16	100	490	740	370	52.0	4.5	5	15.5	3.3	13.74	3.2	0.1	57	64	0.2	6	3	4	40	11
FTRY 1	100	3.9	3	1	100	3	1	6	110	1	4.0	37	3	20	10	7600	100	25	0.1	22	10	0.1	4	31	0.3	2	100	82	120	39	7.2	1.1	1	5.5	1.2	38.95	1.4	0.1	8	28	0.1	3	3	6	3	7
FTRY 2	1640	34.9	3	1	480	3	1	16	410	4	9.2	120	3	20	10	20500	100	25	0.5	41	10	0.1	11	68	9.3	52	100	190	290	110	18.0	3.0	1	12.0	2.4	21.28	3.5	0.1	55	52	0.1	7	3	9	34	14
FTRY 3	215	9.0	3	6	600	3	1	27	300	1	15.2	23	3	20	10	36900	100	60	0.6	33	10	0.1	1	17	2.7	2	100	49	79	30	5.6	1.3	3	5.1	0.9	41.98	4.0	0.1	24	44	0.8	7	3	13	9	14
FTRY 4	102	3.9	3	1	380	3	1	16	310	1	12.8	33	3	20	10	16400	100	25	0.1	27	10	0.1	3	19	0.3	2	100	56	85	32	5.6	1.1	1	5.3	1.2	38.71	3.3	0.1	30	34	0.1	5	3	3	4	6
FTRY 5	513	20.0	3	5	100	3	4	20	300	1	13.5	22	3	20	10	16500	100	25	0.6	22	10	0.1	1	16	0.3	4	100	48	78	22	4.9	1.1	1	3.7	0.8	39.00	4.5	0.1	36	44	0.1	8	3	3	27	9
FTRY 6	3480	72.0	3	5	100	3	1	31	1600	1	25.5	51	3	20	10	13900	100	25	0.1	31	10	0.1	5	33	4.4	8	100	95	150	50	8.9	1.7	1	6.1	1.4	20.69	5.2	0.1	95	48	0.1	8	3	5	77	24
FTRY 7	487	18.0	3	4	260	3	1	23	550	1	17.0	26	3	20	10	14100	100	25	0.1	24	10	0.1	4	24	3.1	2	100	64	91	30	5.7	1.0	1	4.8	1.0	37.00	3.4	0.1	35	40	0.2	6	3	13	20	14
FTRY 8	6530	141.4	3	4	440	3	1	29	460	1	23.0	21	3	20	10	17400	100	25	0.1	26	10	0.1	6	29	2.7	19	100	77	120	49	7.8	1.4	1	5.4	1.0	21.66	11.0	0.1	196	62	0.1	8	3	5	160	57
FTRY 9	252	11.1	3	1	240	3	1	21	370	2	16.8	35	3	20	10	15100	100	25	0.1	26	10	0.1	3	27	3.4	2	100	75	110	34	6.7	1.4	1	4.6	1.0	43.94	2.9	0.1	54	31	0.1	4	3	0	11	2
FTRY 10	3140	100.7	3	7	100	3	4	26	600	1	24.7	27	3	20	10	14000	100	25	0.5	21	10	0.1	8	46	3.9	42	100	120	180	67	9.9	1.4	1	3.9	0.8	32.06	6.0	1.0	39	32	0.1	4	11	7	84	34
FTRY 11	51	1.6	3	1	290	3	5	22	370	3	12.3	28	3	20	10	16200	100	25	0.1	30	10	0.1	3	19	0.3	24	100	57	92	37	6.0	1.2	1	5.1	1.1	31.42	4.0	0.5	53	49	0.1	6	3	5	2	8
FTRY 12	115	3.2	3	6	100	3	1	32	640	1	25.0	32	3	20	10	12500	100	25	0.6	32	10	0.1	3	25	3.4	11	100	76	120	38	7.7	1.7	1	6.5	1.4	27.54	7.9	0.1	147	62	0.1	10	3	0	4	1
FTRY 13	1170	32.6	3	3	100	3	1	18	1200	1	8.4	65	3	20	10	19900	100	25	0.1	44	10	0.1	7	56	6.7	24	100	150	230	78	14.0	2.4	1	9.7	1.9	27.90	2.2	0.1	73	47	0.1	5	3	10	33	15
FTRY 14	493	20.8	3	1	100	3	1	23	410	1	16.2	15	3	20	10	14200	100	25	0.3	21	10	0.1	2	12	0.3	2	100	33	56	16	3.6	0.9	1	3.1	0.6	42.14	6.7	0.4	35	54	0.1	7	65	8	24	14
FTRY 15	210	7.2	3	9	240	3	4	31	370	1	17.7	11	3	20	10	17100	100	25	0.3	19	10	0.1	2	14	0.3	2	100	36	54	22	3.9	0.7	1	2.7	0.6	34.20	5.6	0.1	81	67	0.1	10	3	1	8	3
FTRY 16	195	5.3	3	4	300	3	4	24	560	1	16.9	35	3	20	10	14400	100	25	0.4	34	10	0.1	4	21	2.4	2	100	67	100	34	6.7	1.3	1	7.0	1.1	27.17	2.3	0.1	31	46	0.1	9	3	1	5	2
FTRY 17	541	18.5	3	1	330	3	4	25	600	1	14.5	15	3	20	10	16400	100	25	0.1	25	10	0.1	3	12	0.3	2	100	38	62	23	4.3	0.9	1	3.6	0.6	34.25	3.9	0.1	59	50	0.1	9	3	3	28	7
FTRY 18	1180	32.5	3	1	280	3	1	27	780	1	21.7	34	3	20	10	16200	100	25	0.1	22	10	0.1	3	22	3.4	2	100	67	100	47	6.6	1.6	1	4.5	0.9	27.54	3.2	0.1	30	33	0.1	5	12	9	40	16
FTRY 19	2240	89.7	3	1	430	3	1	23	1400	1	16.3	50	3	20	10	11700	100	25	0.1	29	10	0.1	5	54	5.1	9	100	150	190	93	14.0	1.5	1	6.7	1.3	40.03	1.5	0.1	31	28	0.1	4	3	2	82	23
FTRY 20	389	13.2	3	1	390	3	3	16	550	1	8.3	47	3	20	10	17700	100	25	0.1	24	10	0.1	1	19	3.6	6	100	59	98	67	9.5	2.0	1	5.6	1.2	34.05	5.5	0.1	53	56	0.1	11	10	7	18	6
FTRY 21	524	15.1	3	1	100	3	3	22	490	3	18.8	25	3	20	10	14500	100	62	0.1	16	10	0.1	3	14	2.4	2	100	41	62	44	6.1	1.6	1	3.8	0.8	28.89	3.5	0.7	39	136	0.1	12	3	7	22	8
FTRY 22	334	15.2	3	1	100	3	1	20	530	1	14.8	20	3	20	10	14100	100	65	0.1	13	10	0.1	1	7	1.8	2	100	23	39	26	3.7	1.0	1	2.6	0.5	45.51	1.9	0.1	23	114	0.1	15	3	0	23	5
FTRY 23	532	16.4	3	3	100	3	1	29	720	1	28.2	28	3	20	10	8770	100	25	0.1	15	10	0.1	2	16	3.0	2	100	45	71	34	6.4	1.3	1	2.5	0.6	30.74	4.5	0.1	49	96	0.1	7	3	1	18	6
FTRY 24	2100	57.6	3	5	680	3	1	28	540	1	17.3	63	3	20	10	13200	100	25	0.1	25	10	0.1	5	58	6.6	2	100	160	220	120	17.0	2.0	2	5.6	1.2	27.44	2.6	0.1	44	36	0.1	5	3	2	55	19
FPIP 1	458	20.7	3	3	100	3	1	22	230	3	16.7	18	3	20	10	13300	100	25	0.3	24	10	0.1	4	29	2.9	41	100	73	100	48	8.0	0.9	1	5.1	1.0	45.10	3.2	0.1	23	31	0.2	6	9	2	21	6
FPIP 2	466	14.2	3	4	430	3	1	15	290	3	11.2	50	3	20	10	19200	100	25	0.1	21	10	0.1	5	52	7.5	2	100	150	210	120	16.0	2.1	1	4.3	1.0	30.42	1.1	0.1	15	35	0.1	2	3	2	11	4
FPIP 3	345	10.7	3	6	430	3	3	29	480	1	19.7	29	3	20	10	13400	100	25	0.1	29	10	0.1	5	37	3.3	12	100	95	140	72	11.0	1.4	1	6.1	1.1	30.99	4.5	0.5	39	51	0.1	8	3	0	10	2
FPIP 4	892	29.7	3	4	290	3	2	31	380	1	25.6	26	3	20	10	12900	100	25	0.1	29	10	0.1	10	41	5.7	47	100	100	140	71	11.0	1.0	1	7.3	1.3	33.32	2.1	0.1	41	66	0.1	4	3	2	53	15
FPIP 5	194	4.9	3	1	100	3	5	24	480	1	37.3	60	3	20	10	11100	100	25	0.1	26	10	0.1	9	67	7.9	2	100	190	270	110	16.0	1.9	1	5.9	1.2	25.18	1.9	0.1	21	27	0.1	3	3	7	5	5
FPIP 6	349	8.7	3	1	300	3	1	38	530	1	31.6	55	3	20	10	9780	100	25	0.1	43	10	0.1	9	85	7.4	20	100	230	340	120	21.0	1.8	1	10.0	2.0	24.83	1.7	0.1	14	57	0.1	4	3	1	8	3
FPIP 7	3600	53.5	3	1	100	3	6	32	820	1	40.1	60	3	20	10	10100	100	25	0.1	46	10	0.1	9	160	13.0	23	100	400	600	220	35.0	2.5	1	10.5	2.5	14.87	2.2	0.1	19	35	0.1	5	3	0	59	12
FPIP 8	246	5.3	3	1	100	3	1	12	280	3	13.9	37	3	20	10	4170	100	25	0.1	29	10	0.1	6	75	8.1	13	100	200	280	100	16.0	1.2	2	6.5	1.4	21.47	2.3	0.1	25	34	0.1	7	3	5	5	10
FPIP 9	219	4.2	3	1	100	3	1	12	310	1	18.7	28	3	20	10	4720	100	25	0.1	18	10	0.1	21	69	5.6	25	100	170	240	100	14.0	1.0	3	4.6	1.0	19.19	1.1	0.1	13	39	0.1	3	3	3	5	3
FPIP 10	362	11.0	3	1	530	3	1	25	560	1	24.3	86	3	20	10	9880	100	25	0.1	41	10	0.1	11	86	9.6	2	100	240	340	120	19.0	2.9	5	10.5	2.0	30.28	1.0	0.1	11	25	0.1	2	3	2	9	4
FPIP 11	823	21.1	3	16	100	3	1	27	590	1	31.9	76	3	20	10	9450	100	25	1.7	40	10	0.1	9	79	10.0	2	100	210	320	130	19.0	2.0	1	10.1	2.1	25.62								1	21	5
FPIP 12	1220	42.5	3	5	280	3	1	26	480	1	28.0	34	3	20	10	11000	100	25	0.1	28	10	0.1	9	55	4.9	15	100	140	210	71	11.0	0.9	1	6.8	1.4	34.86	3.1	0.1	18	32	0.1	4	3	7	35	14
[illegible]																																														

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ROGRAM

.4-.5 mm No.	Shape	>.5 mm No.	Shape	Wgt. (gm.)	CONCENTRATE Mag %	Py %	Gar %	Misc.	Ultraviolet lamp Sch	Zir	Rad	NOTES	NORMALIZED VALUES GOLD grains	GOLD microgm
				28.7	60		tr		Y				6	2.0
				31.5			tr		Y			basal till	1	3.5
						tr			Y	Y		1 Au grain ?(.3 x.1) odd colour	0	4.0
				26.7	50	tr				Y			6	6.1
				20.7					Y	Y			3	1.8
				45.1	60	tr				Y			5	8.9
				18.1	40	5	tr		Y	Y		clay in till	0	0.3
				36.4	80	10	tr		Y	Y		jasper, clay in till	2	1.6
				25.3	70	10			Y	Y		clay	0	1.1
				15.4	60	tr	15		Y	Y		basal till	1	0.7
				19.5	85	5				Y		basal till	0	0.1
				35.1	60	30	10		Y	Y		ablation till (boulders)	1	4.5
				19.0		tr			Y	Y		clay till	2	20.7
				39.9	80	10							3	11.9
				25.2			tr		Y	Y			1	3.6
				16.7	60	5							3	2.8
				28.4						Y			1	4.3
				34.2					Y		0		1	5.0
				30.6	80	tr			Y		0	sandy, oxidized, basal till	4	3.2
				19.5							0		6	4.3
				14.0					Y		0	ox basal/unox sandy till	1	1.9
				52.0		tr						coarse fraction 50% clay	1	2.3
				26.7	90	5					0	unoxidized basal till	0	16.2
				25.2	60	10	tr				0	oxidized basal till	6	18.5
				21.6		5			Y			3rd Au grain ? SA, proc. error	3	9.6
				18.7							0	may/may not be gold	2	3.9
				11.5					Y		0	gold?, oxid & unoxid basal till	1	22.6
				37.1	70	10	10		Y		0	ox & unox basal till	4	6.2
				33.7	70	20			Y	Y	0	ox & unox basal till	3	3.4
				29.6	70	10				Y	0	silty, ox basal till, no bdrk	11	1.9
				36.6		tr			Y	Y	0	sandy basal till	0	9.5
				37.3							0		2	4.2
				25.2	90	10			Y		0		2	2.9
				45.1	80	10	tr					ox basal till	2	4.5
				33.3	80	10			Y	Y	0	ox basal till above sand layer	2	6.9
				36.6	50				Y	Y	0		8	14.6
				45.4								oxidized basal till	0	22.8
				30.5	80	tr			Y	Y		oxidized basal till on bedrock	22	84.1
				44.2	60	tr					0		8	14.6
				25.8	50	15	tr				0	oxidized basal till	11	64.0
2	SA			25.7					Y	Y	0	oxidized basal till	5	216.9
				15.7	80	10			Y	Y	0	no bedrock	1	11.2
1	SA			30.2	60	10	5		Y	Y	0		5	38.9
				53.9	80	tr			Y			sand & boulders	2	0.2
				24.6						Y		very sandy, oxidized	4	54.9
				29.5	50	20				Y		sandy	1	2.4
				22.9		tr			Y	Y	0	clayey till	2	3.2
				42.1	30	tr					0	sandy	3	1.5
				28.3	60	5					0		3	4.0
				38.5	25	tr	tr		Y	Y	0	clayey, basal, volc, carb veins	2	7.1
				40.5	25	tr	tr		Y	Y		silty basal till	2	10.1
				44.5	30	tr	tr		Y	Y		Cpy in conc., boulder pile	1	5.5
				32.9	75	tr	tr		Y	Y		basal till	4	11.9
				42.4					Y	Y		basal till silty & stoney	3	5.2
				36.6					Y			sandy basal till	5	21.5
				32.5	75	5	5		Y	Y		gravely basal till	5	7.8
				44.0	25	tr						sandy stoney basal till	1	19.0
				24.6	90	tr	5		Y	Y		bad sample, sandy	9	16.0
				25.2	80	tr	tr		Y	Y		silty basal oxidized till	7	14.3
				55.4	60	10	tr		Y		0	unoxidized basal till	6	7.7
				22.2		5						oxidized till	1	1.9
				60.7	60	10	20		Y	Y		oxidized till	5	1.4
				34.3						Y	0	oxidized	0	0.5
				12.4					Y	Y		clay rich oxidized till	1	4.7
				15.2	50	5	tr				0	ox till	1	3.9
				40.6							0	oxidized till, clay rich	3	2.1
				22.9					Y	Y			3	4.0
				18.4	60	5			Y	Y	0	oxid./unoxid. sandy till	1	0.5
				29.5					Y	Y		oxidized/unoxidized sandy till	0	1.1
				40.7	60	tr	10		Y	Y	0	oxidized/unoxidized sandy till	2	4.4
				30.8								till on bedrock	2	4.2
				46.5	80				Y	Y	0		5	1.7
				35.7					Y	Y	0		2	1.6
				16.9					Y	Y	0		3	1.3
				25.8	90		5		Y	Y	0		0	0.1
				54.9	30						0	grains on volc rk chip with qtz	3	2.7
				39.0	60	tr			Y		0	oxidized/unoxidized sandy till	2	3.6
				20.1	50	10	10				0	oxidized/unoxidized basal till	2	0.0
				16.1	70	tr	10		Y	Y	0	also 5% hble; unox basal till	1	4.9
				16.2	95	tr	tr	Cpy		Y	0	unox, sandy till	5	8.4
				39.8	90	tr	tr		Y	Y	0	oxid/unox till, tr. barite	4	0.2
				37.1	80	tr	tr		Y	Y	0	unoxid. basal till, tr.mag,bar	6	0.3
				34.5	60	8			Y	Y	0	clay ox till/sandy unox till	1	1.9
				32.1		tr	tr			Y	0	ox./unox. till	1	2.4
				17.7	60	tr	tr		Y	Y	0	stoney ox., silty unox. basal	3	2.1
				33.4			tr					mag., epidote; loamy ox. till	3	21.7
				26.5	90	tr				Y	0	silty or basal till	2	0.1
				28.3			tr			Y	0	oxidized loamy till	3	4.9
				41.1	95					Y	0	oxid. loamy, cobbly till	2	23.5
				32.5	80		tr		Y	Y	0		1	8.0
				27.3	95	tr	tr	Cu	Y	Y	0	cobbly	4	0.1
				34.0	20						0	silty till/unox. clay till	2	3.0
				37.2	20	tr						silty till, iron formation frag	3	8.8
				47.0	95				Y	Y	0	silty basal till	2	9.3
				38.8	40	tr	tr		Y	Y		red clay in basal till	1	1.0
				18.2					Y		0	oxid. red clay	2	0.1
				59.1	15		5		1		0	slty sdy bsl till	1	10.1
				52.5	20	tr	tr		1		0	gravelly till	2	11.6
				63.3	30	tr	3		1		0	sandy gravelly till	2	3.8
				63.0	40	tr	tr		1	1	0	silty, gravelly till (basal)	6	7.0
				46.3	20		tr		1		0	silty till; basal	1	32.8
				44.9	15	5	5		1		0	clayey basal till	1	4.0
				13.2	5	tr			1		0	reddish till	1	6.6
				41.1	10	5	5		1		0	reddish till	16	61.5
				57.0	20	5			1	1	0	good till	11	30.6
				61.6	25	5	5		0	1	0	clay-rich till	5	6.3
1	A			37.7					1	1	0	clay-rich till	4	18.5
				37.6	25	5	3		1	1	0	clay and gravel	9	21.5
				33.9	25				0	1	0	sandy till	4	5.6
				52.1	35		5		1	1	0	till over clay-silt	3	1.7
				34.2	30	5	5		1	1	0	poor (sandy) till	4	7.3
				29.6	35	2	5		1	2	0		0	9.0
				35.1	15	3	tr		0	0	0		4	3.5
				46.0	25	3	4		0	2	0		6	15.8
				37.1	30	3	3		1	1	0		4	13.5
				35.9	30	tr	3		0	0	0		3	1.5
				42.7	25	5	2		0	2	0		1	3.4
				44.3					0	1	0	gravelly	2	5.4
				36.5	20	tr	tr		0	1	0		2	27.5
				41.3	25	2	tr		0	1	0		16	34.0
				28.5	25	tr	tr		0	2	0	basal	6	20.9
				21.3	10	3	0		1	0	0	basal local	1	7.6
				18.5	5	tr	0		1	1	0	silty basal	0	18.6
				25.7	5	0	0		0	2	0	silty basal	1	5.0
				19.4	15	2	2		0	2	0		1	1.1
				38.6	10	tr	tr		1	2	0	silty basal	1	2.5
				25.2	25	5	0		0	2	0	silty basal	1	6.3
				22.3	5	tr	0		0	1	0	silty basal	0	2.2
				24.8	50	2	0		1	2	0		5	12.6
				25.8	20	tr	0		2	1	0	silty	0	10.6
				23.6					1	1	0	silty gravelly	0	12.6
				16.6	10	tr	0		0	2	0	silty basal	0	3.6
				39.5	45	tr	tr						6	10.8
				25.8	20	tr	tr						0	2.3
				38.0	25	tr	tr						3	6.4
				50.9	45	5	tr						3	5.3
				16.0	15	5	tr						2	25.8
				30.1	30	5	10						0	2.1
				36.1	30	7	tr						4	15.7
				55.2	10	3	3						2	5.3
				50.0	35	5	tr						2	5.1
				39.8	25	5	10						4	5.6
				29.8	10	tr	tr						0	1.3
				50.0	10	tr							3	4.3
				10.7	20	tr	3						3	10.5
				32.9	30	tr	13						1	1.7
				40.1	30	3	tr						2	2.5
				35.5	13	3							2	8.6
				38.8	30	5							4	7.0
1	SA-SR			38.4	80	tr	tr						10	57.0
				37.9	10	tr	13						1	4.5
					40	tr							6	6.5
					40	tr	10						10	38.2
				48.7	40	tr	tr						9	14.4
				38.8	37	10	tr						2	4.3
				20.4	35	tr	tr						1	2.4
				48.3	25	tr	0		0	2	0	basal	5	8.4
				52.6	25	5	5		0	1	0	silty basal	4	18.4
				22.5	15	5	tr		0	2	0	silty basal	0	8.5
				33.0	25	tr	tr		0	3	0	silty basal	0	1.6
				33.9	30	3	3		0	2	0	basal	0	3.0
				36.6	20	10	5		0	2	0	basal	2	0.1
				28.5					0	2	0	basal	3	8.2
				43.5	30	tr	tr		0	2	0	silty basal	6	2.7
				35.4	25	2	4		1	2	0	basal	2	7.7
				32.8	10	tr	0		0	2	0	basal	0	1.9
				38.3	tr	tr	0		1	1	0	basal	0	4.1
				24.0	tr	tr	0		0	1	0	basal	0	0.1
				34.9	60	2	10		1	3	0	basal	2	13.5
				45.1	40	2	5		1	2	0	basal	1	17.0
				30.6	5	2	0		0	2	0	basal	0	16.2
				46.9	5	2	tr		0	1	0	basal	0	0.2
				39.2	45	2	5		1	3	0	basal	3	8.7
				44.2	20	2	0		0	1	0	silty basal	0	1.3
				32.5	1	0	0		1	0	0	basal	2	4.4
				23.7	tr	2	0		1	0	0	basal	0	0.2
				28.5	1	0	0		1	0	0	basal	0	3.8
												basal	0	0.7
				28.4	15	tr	5		0	2	0	basal	1	11.1
				30.8	10	5	10		2	2	0	silty basal	3	9.0
				21.8	20	tr	0		0	1	0	basal	0	0.1
				18.9	tr	tr	tr		0	0	0		0	0.3
				33.3	10	tr	tr		0	0	0		0	0.1
				28.3	0	tr	0		1	0	0		0	0.2
				33.6	10	tr	tr		1	1	0		4	5.5
													0	5.4
													0	8.3
				26.3	10	3	2		1	2	0		1	4.4
				10.5	7	tr	0		0	1	0		0	0.0
				23.7	15	3	4		0	2	0		2	5.8
													0	3.0
				25.4	2	tr	0		0	0	0		0	3.1
				55.0	20	tr	5		2	3	0		0	5.1
				36.9	5	0	3		0	1	0		0	3.4
				26.0	5	tr	tr		1	1	0		0	8.7
				37.0	30	tr	tr		1	2	0		0	4.8
				41.8	25	1	0		1	3	0		1	3.5
				43.5	65	0	0		1	1	0	silty basal	0	0.1
				28.4	30	2	0		1	0	0	sandy	2	42.7
5		0		193	164	159	124		134	144	134		199	199.0
0		0		0.0	0	0	0		0	0	0		0	0.0
2		0		63.3	95	30	20		2	3	0		22	216.9
1		0		33.2	37	3	2		0	1	0		3	9.8
1		0		11.6	28	4	4		1	1	0		3	19.0
1		0		134.5	777	20	15		0	1	0		10	361.2
2		0		56.4	93	12	10		1	2	0		9	47.8

CONCENTRATE ASSAYS

Au ppb det 5	Au mgn	Ag ppm 5	As ppm 2	Ba ppm 200	Br ppm 5	Ca % 1	Co ppm 5	Cr ppm 10	Cs ppm 2	Fe % 0.0	Hf ppm 1	Hg ppm 5	Ir ppb 40	Mo ppm 20	Na ppm 500	Ni ppm 200	Rb ppm 50	Sb ppm 0.2	Sc ppm 0	Se ppm 20	Sr % 0.2	Ta ppm 1	Th ppm 1	U ppm 0.5	W ppm 4	Zn ppm 200	La ppm 1	Ce ppm 3	Nd ppm 10	Sm ppm 0.1	Eu ppm 0.2	Tb ppm 2	Yb ppm 0.2	Lu ppm 0.1	Mass gm
43	1.2	3	1	570	3	1	35	530	1	21.2	8	3	20	10	18700	100	25	0.1	15	10	0.1	2	11	0.3	20	100	31	53	37	4.4	0.1	1	2.1	0.4	28.60
105	3.3	3	5	230	3	1	51	620	1	24.5	7	3	20	10	11600	100	25	16.0	17	10	0.1	1	13	1.8	9	100	40	57	50	4.8	0.8	1	2.0	0.3	31.51
72	3.0	3	1	250	3	3	37	720	1	14.0	9	3	20	10	14100	100	25	0.1	22	10	0.1	1	11	1.7	2	100	36	52	25	4.9	1.1	1	2.3	0.5	41.96
193	5.1	3	2	100	3	4	56	870	1	27.3	13	3	20	10	11400	100	25	0.1	24	10	0.1	1	16	2.6	2	330	49	79	37	6.7	1.0	1	2.5	0.6	26.64
64	1.3	3	3	440	3	1	71	1200	1	35.5	14	3	20	10	9400	100	25	0.1	20	10	0.1	2	24	1.6	2	280	65	100	41	7.4	0.9	1	2.6	0.5	20.68
155	7.0	3	2	100	3	2	40	360	1	15.6	7	3	20	10	13000	100	25	0.1	18	10	0.1	2	11	0.3	2	100	33	48	23	4.3	0.1	1	1.9	0.4	44.99
15	0.3	3	6	100	3	1	79	500	1	30.1	9	3	20	10	11500	100	25	0.1	25	10	0.1	1	22	2.0	2	360	56	89	39	6.8	0.8	1	2.9	0.6	17.94
47	1.7	3	1	270	3	1	76	270	1	25.8	7	3	20	10	7770	100	25	1.1	26	10	0.1	4	14	0.3	7	280	37	55	25	4.4	0.1	1	1.9	0.4	36.27
48	1.2	3	1	100	3	1	64	400	1	20.9	16	3	20	10	10900	100	25	0.1	28	10	0.1	1	15	0.3	2	210	46	74	59	5.8	0.9	1	2.8	0.6	25.05
37	0.6	3	1	390	3	1	96	1100	1	45.8	32	3	20	10	6040	100	25	0.1	23	10	0.1	1	37	3.8	2	500	87	130	70	9.4	1.2	1	3.2	0.7	15.24

CHARACTER SAMPLES / NORMALIZED VALUES normalized to 20 kg. of -6 mm material

As ppm 1.0	Sb ppm 0.2	Cu ppm 1	Zn ppm 1	Ag ppm 0.1	Pb ppm 2	Au ppb 5	GOLD grains	GOLD micrograms	GOLD RATING
2.5	0.1	15	32	0.1	4	3	6	2	4
4.2	0.6	57	71	0.1	19	3	1	4	2
3.3	0.1	26	53	0.0	1	6	0	4	1
2.5	0.1	23	30	0.0	3	3	6	6	5
2.2	0.1	13	41	0.0	1	3	3	2	1
3.1	0.1	17	38	0.0	4	6	5	9	6
11.0	0.1	32	72	0.1	4	3	0	0	0
2.7	0.4	18	65	0.0	3	3	2	2	1
2.4	0.1	20	52	0.0	5	7	0	1	0
2.0	0.1	15	68	0.1	4	3	1	1	1

ICE PROGRAM

CONCENTRATE · Ultraviolet lamp · NOTES · NORMALIZED VALUES · CONCENTRATE ASSAYS · CHARACTER SAMPLES · NORMALIZED VALUES normalized to 20 kg. of -6 mm material · GOLD RATING

-.4 mm No. Shape	.4-.5 mm No. Shape	>.5 mm No. Shape	Wgt. (gm.)	Mag %	Py %	Gar %	Misc.	Sch	Zir	Rad	NOTES	GOLD grains	GOLD microgm	Au ppb	Au mgn ppm	Ag ppm	As ppm	Ba ppm	Br ppm	Ca %	Co ppm	Cr ppm	Cs ppm	Fe %	Hf ppm	Hg ppm	Ir ppb	Mo ppm	Na ppm	Ni ppm	Rb ppm	Sb ppm	Sc ppm	Se ppm	Sr %	Ta ppm	Th ppm	U ppm	W ppm	Zn ppm	La ppm	Ce ppm	Nd ppm	Sm ppm	Eu ppm	Tb ppm	Yb ppm	Lu ppm	Mass gm	As ppm	Sb ppm	Cu ppm	Zn ppm	Ag ppm	Pb ppm	Au ppb	GOLD grains	GOLD micrograms	GOLD RATING
[illegible]																																																											
			37.9	30	5	15		1	2	0	basal	1	7.8	258	9.8	3	1	100	3	3	21	460	1	10.7	110	3	20	10	14700	100	25	0.1	44	10	0.1	6	19	5.1	7	100	61	100	49	6.4	1.7	3	16.6	3.2	37.84	1.1	0.1	17	28	0.4	1	7	1	8	3
			46.2	20	tr	5		1	1	0	sandy basal	0	15.8	369	17.0	3	6	100	3	3	25	430	1	15.7	37	3	20	10	15500	100	25	0.5	21	10	0.1	6	14	2.9	55	100	40	64	23	3.8	1.2	1	6.0	1.2	46.10	8.8	0.1	18	32	0.5	3	7	0	16	3
			35.1	20	0	5		0	1	0	sandy ablation	0	14.1	479	16.7	3	7	100	3	1	23	600	1	13.4	63	3	20	10	15700	100	25	0.1	33	10	0.1	20	25	5.4	25	100	70	120	42	7.0	1.4	1	13.6	2.6	34.82	13.0	0.1	77	48	0.3	12	3	0	14	3
			42.8	15	0	tr		2	1	0	ablation sandy	0	2.0	50	2.1	3	13	220	3	1	30	510	1	16.4	19	3	20	10	14200	100	60	0.6	22	10	0.1	3	9	2.8	13	100	30	53	23	3.2	1.0	1	7.0	1.3	42.72	11.0	0.1	67	63	0.1	15	3	0	2	0
			47.7	15	0	0		1	0	0	loamy basal	0	30.1	646	30.7	3	10	350	3	3	20	310	1	10.5	21	3	20	10	14700	100	25	0.1	28	10	0.1	1	8	2.9	2	100	28	43	17	2.7	1.0	1	8.1	1.6	47.58	10.0	0.1	20	37	0.2	6	3	0	30	6
			44.5	20	tr	0		1	1	0	gravelly basal	2	0.2	3	0.1	3	1	100	3	1	23	350	1	15.4	22	3	20	10	15800	100	50	0.1	20	10	0.1	7	17	4.5	2	100	35	69	21	4.3	0.9	1	5.2	1.0	44.44	2.1	0.1	30	56	0.1	19	3	2	0	1
			40.1	5	tr	0		0	2	0	gravelly basal	0	0.1	3	0.1	3	1	340	3	1	9	230	1	6.3	78	3	20	10	18800	100	50	0.1	26	10	0.1	6	37	6.3	2	100	82	130	56	8.1	1.6	1	10.6	2.1	40.11	1.2	0.1	8	18	0.1	1	3	0	0	0
			40.0	10	tr	5		0	2	0	sandy	2	0.2	3	0.1	3	1	100	3	1	18	170	1	10.9	31	3	20	10	16100	100	25	0.1	18	10	0.1	3	17	3.8	2	100	40	64	29	4.1	1.0	1	5.1	1.0	40.02	2.3	0.1	15	21	0.3	6	5	2	0	1
			28.1	15	1	0		1	1	0	basal	0	0.1	3	0.1	3	1	450	3	1	20	440	1	14.0	90	3	20	10	15900	100	25	0.1	22	10	0.1	1	30	6.7	2	100	68	120	41	6.8	2.1	1	7.8	1.6	28.03	0.5	0.1	8	19	0.3	4	3	0	0	0
			38.3	15	tr	5		1	1	0	sandy	0	0.1	3	0.1	3	1	100	3	1	16	370	1	7.2	100	3	20	10	17900	100	25	0.1	23	10	0.1	7	40	7.0	2	100	100	160	51	8.5	1.5	1	8.6	1.7	38.13	1.8	0.1	7	14	0.1	1	3	0	0	0
			26.9	30	2	0		0	2	0	basal	0	0.2	3	0.1	3	1	100	3	1	23	380	1	19.0	89	3	20	10	14900	100	80	0.1	20	10	0.1	7	43	6.2	2	100	90	140	36	7.9	1.7	2	7.4	1.6	26.86	2.6	0.1	11	23	0.1	6	3	0	0	0
			30.0	20	2	0		1	1	0	gravelly	5	0.8	11	0.3	3	1	100	3	1	17	200	1	14.6	39	3	20	10	19400	100	25	0.1	16	10	0.1	6	36	4.2	2	100	79	140	40	6.1	1.4	1	4.7	0.9	29.92	0.5	0.1	29	26	0.1	8	3	5	1	3
			44.8	10	2	0		1	2	0	mixed	0	2.2	39	1.7	3	1	310	3	1	12	140	1	6.4	43	3	20	10	20000	100	68	0.3	13	10	0.1	5	27	4.1	2	100	67	100	35	5.2	1.3	1	3.9	0.8	44.62	0.5	0.5	6	18	0.1	7	3	0	2	1
			37.8	5	2	0		0	2	0	basal	0	0.1	3	0.1	3	1	390	3	1	13	150	1	6.0	120	3	20	10	18100	100	25	0.1	19	10	0.1	8	43	7.2	2	100	100	150	50	8.3	1.3	1	9.0	1.9	37.64	0.5	0.1	6	16	0.1	5	3	0	0	0
del			32.9	40	0	tr		0	2	0	basal	3	12.9	233	7.6	3	1	370	3	1	22	510	1	15.6	65	3	20	10	14400	230	25	0.1	17	10	0.1	7	42	4.9	2	100	93	140	51	7.4	1.5	1	6.5	1.3	32.75	1.4	0.1	18	20	0.1	5	3	3	13	8
			35.5	30	tr	tr		0	2	0	basal	1	0.1	3	0.1	3	1	390	3	1	22	290	1	15.7	60	3	20	10	15200	100	25	0.1	17	10	0.1	4	40	5.7	2	100	86	140	61	7.0	1.5	1	7.2	1.4	35.47	0.5	0.1	10	18	0.2	5	3	1	0	1
			41.5					0	1	0	basal	0	1.8	38	1.6	3	1	430	3	1	11	200	1	10.0	21	3	20	10	19400	100	58	0.1	8	10	0.1	4	25	2.6	2	100	63	93	27	4.7	1.0	1	2.1	0.4	41.95	0.5	0.1	7	18	0.4	5	3	0	2	0
			42.2	15	tr	10		2	2	0	basal	3	62.2	922	38.8	3	5	520	3	2	21	300	1	11.7	20	3	20	10	14500	100	25	0.1	33	10	0.1	12	7	1.7	19	100	22	43	20	2.5	1.0	1	13.5	2.4	42.13	26.0	0.1	74	51	0.1	6	3	3	62	16
			37.4	10	tr	10		2	2	0	basal	0	15.2	367	13.7	3	4	480	3	1	19	390	1	11.6	42	3	20	10	15200	100	25	0.1	25	10	0.1	1	9	5.3	15	100	34	57	17	4.2	1.4	1	9.3	1.7	37.26	8.0	0.6	29	37	0.1	7	3	0	15	3
			39.9	15	0	tr		1	2	0	basal	2	3.8	115	4.6	3	1	380	3	1	24	540	1	13.1	40	3	20	10	14900	100	59	0.1	17	10	0.1	3	11	3.0	2	100	36	63	37	3.8	1.1	1	4.2	0.9	39.83	2.2	0.1	7	19	0.2	3	3	2	4	2
			44.2	25	tr	5		2	2	0	basal	0	17.7	473	20.8	3	7	340	3	1	21	460	1	14.3	51	3	20	10	13900	100	25	0.1	21	10	0.1	17	10	2.7	40	100	44	65	19	5.0	1.3	1	6.8	1.4	44.06	4.9	0.6	22	23	0.1	1	3	0	18	4
			37.5	15	0	5		1	2	0	basal	0	1.1	43	1.6	3	1	250	3	3	20	440	1	8.1	72	3	20	10	15500	100	62	0.1	27	10	0.1	6	18	5.0	2	100	56	89	36	5.9	1.6	1	8.1	1.5	37.36	1.4	0.1	10	28	0.2	3	3	0	1	0
			31.1	10	0	tr		1	1	0	basal	0	9.3	233	7.2	3	1	320	3	1	23	380	1	14.0	52	3	20	10	12500	100	25	0.1	47	10	0.1	7	16	2.9	2	230	43	75	18	5.3	1.1	1	16.6	3.2	31.04	2.5	0.1	10	29	0.1	5	3	0	9	2
			30.2	10	tr	10		1	2	0	basal	0	1.3	39	1.2	3	1	540	3	1	19	310	3	12.8	47	3	20	10	13800	100	25	0.1	52	10	0.1	11	21	2.6	2	100	55	97	44	7.1	1.4	1	19.9	3.5	30.15	2.4	0.1	12	35	0.1	1	3	0	1	0
			33.7	15	tr	5		1	2	0	basal	0	1.2	44	1.5	7	1	310	3	1	27	440	1	14.7	35	3	20	10	15000	100	25	0.1	18	10	0.1	5	11	2.8	2	100	30	53	16	3.8	1.4	1	4.3	0.8	33.59	1.9	0.1	9	15	0.1	1	3	0	1	0
			48.1	10	2	0		1	1	0	basal	0	0.2	3	0.1	3	1	100	3	1	13	180	3	8.0	16	3	20	10	15700	100	25	0.1	19	10	0.1	5	10	3.0	8	100	29	54	19	3.7	0.6	1	6.7	1.2	47.92	2.2	0.1	30	34	0.1	6	3	0	0	0
			30.8	20	tr	5		1	2	0	basal	2	3.6	144	4.4	3	1	100	3	3	27	820	1	10.3	130	3	20	10	13900	100	25	0.1	31	10	0.1	6	30	7.6	2	100	84	140	57	9.7	2.1	1	9.4	1.9	30.72	3.1	0.1	11	21	0.1	4	3	2	4	2
			38.4	20	tr	tr		0	0	0	basal	0	2.6	61	2.3	3	3	360	3	1	29	550	1	16.9	19	3	20	10	14500	100	25	0.1	15	10	0.1	5	13	1.1	2	100	27	42	16	3.3	0.6	1	2.7	0.6	38.44	4.9	0.1	49	50	0.1	7	3	0	3	1
			30.3	15	0	0		1	2	0	basal	1	1.8	60	1.8	3	1	100	3	1	22	270	1	9.8	41	3	20	10	13200	100	25	0.1	20	10	0.1	3	15	3.2	2	100	41	71	32	5.8	0.5	1	4.0	0.9	30.19	2.4	0.1	7	58	0.1	6	3	1	2	1
			27.5	5	tr	5		1	1	0	ablation	0	2.5	87	2.4	3	1	100	3	4	35	460	2	16.6	61	3	20	10	11000	100	25	0.1	22	10	0.1	4	30	5.6	2	100	71	110	43	7.8	1.4	1	4.5	1.0	27.37	2.4	0.1	9	31	0.1	4	3	0	3	1
			32.2	20	tr	0		0	1	0	basal	0	2.0	50	1.6	3	1	430	3	4	24	420	3	14.1	30	3	20	10	14600	100	75	0.1	13	10	0.1	4	90	6.2	2	100	210	330	120	20.0	1.2	1	3.8	0.7	32.14	0.5	0.1	16	39	0.1	8	3	0	2	0
			32.6	15	tr	tr		0	1	0	ablation	0	0.1	3	0.1	3	1	100	3	1	24	440	3	14.4	34	3	20	10	13600	100	25	0.1	12	10	0.1	1	93	6.7	2	100	230	350	120	21.0	1.1	1	3.9	0.8	32.56	0.5	0.1	5	16	0.1	3	12	0	0	0
			41.8	25	10	10		1	1	0	basal	0	0.2	3	0.1	3	1	310	3	1	21	270	1	13.5	49	3	20	10	15600	100	25	0.1	20	10	0.1	1	30	3.9	2	100	66	87	24	6.0	1.3	1	5.9	1.4	42.07	2.5	0.1	22	30	0.1	6	3	0	0	0
			31.1	15	tr	15		1	2	0	silty clay basal	0	3.3	64	2.0	3	1	100	3	1	25	370	1	13.7	61	3	20	10	17400	100	25	0.3	29	10	0.1	5	33	4.0	9	100	79	120	44	8.8	1.7	1	6.9	1.4	31.13	1.9	0.1	14	25	0.1	5	3	0	3	1
			42.8	60	10	3		1	2	0	clayey	0	6.6	112	4.8	3	8	100	3	1	84	190	1	12.3	35	3	20	10	14700	100	62	0.1	18	10	0.1	3	16	4.1	2	100	40	61	21	5.0	1.2	1	3.9	0.9	42.72	1.8	0.1	25	39	0.1	5	3	0	7	1
			35.7	10	10	5		0	0	0	basal	0	4.0	61	2.2	3	4	100	3	1	29	440	1	9.8	58	3	20	10	15000	100	25	0.4	27	10	0.1	1	29	4.1	2	100	61	87	25	6.7	1.7	1	6.8	1.5	35.71	3.9	0.1	35	45	0.2	9	3	0	4	1
			41.2	40	20	3		1	1	0	basal	0	4.8	88	3.6	3	76	100	3	1	35	220	1	16.2	32	3	20	10	15300	100	55	0.1	17	10	0.1	1	21	3.7	2	100	43	66	23	4.5	1.0	1	4.7	0.9	41.27	4.7	0.1	66	47	0.1	6	3	0	5	1
			31.6	5	20	3		0	1	0	sandy clay	0	0.1	3	0.1	3	1	100	3	4	18	210	1	6.3	49	3	20	10	18400	100	25	0.1	26	10	0.1	5	25	4.6	2	100	57	90	39	7.2	2.4	1	6.6	1.3	31.52	0.5	0.1	21	42	0.1	5	3	0	0	0
			37.3	20	5	15		2	1	0	sandy clay	0	0.9	16	0.6	3	1	370	3	1	26	300	2	15.4	43	3	20	10	13900	100	25	0.4	19	10	0.1	5	25	3.3	10	100	54	83	30	5.6	1.5	1	5.6	0.9	37.30	0.5	0.1	30	24	0.1	3	3	0	1	0
	1 A		31.1					2	2	0	ablation	4	76.1	1680	52.1	3	1	250	3	1	28	760	1	20.5	64	3	20	10	13600	100	78	0.1	19	10	0.1	7	64	9.2	61	100	120	160	62	10.0	1.8	2	7.3	1.4	31.04	4.0	0.1	26	16	0.1	7	3	4	76	28
			32.4	40	tr	tr		0	1	0	basal	1	23.5	550	17.8	3	12	280	3	1	28	410	1	26.2	57	3	20	10	11600	100	25	0.5	13	10	0.1	2	14	3.1	2	100	37	55	21	3.8	1.0	1	4.1	0.8	32.41	6.8	0.1	11	32	0.1	5	5	1	23	7
			38.0	70	tr	tr		1	2	0	sandy	0	29.7	777	29.4	3	1	100	3	1	35	480	1	34.5	48	3	20	10	9580	100	25	0.1	12	10	0.1	5	20	3.9	2	100	50	76	28	4.5	1.2	1	2.7	0.6	37.82	2.1	0.1	11	24	0.3	3	6	0	30	6
			37.9	25	10	tr		1	2	0	basal	1	7.5	174	6.6	3	8	310	3	1	30	300	1	20.5	51	3	20	10	13500	100	25	0.3	14	10	0.1	3	18	4.5	2	200	54	81	31	6.5	1.8	1	3.9	0.8	37.80	2.7	0.1	32	51	0.2	7	5	1	7	3
			46.4	35	3	tr		1	2	0	basal	13	15.7	297	13.8	3	7	240	3	1	20	320	1	19.7	55	3	20	10	11800	100	25	12.0	13	10	0.1	1	16	3.0	2	100	42	60	18	4.0	1.1	1	3.8	0.8	46.30	5.3	0.1	6	34	0.1	5	3	13	16	10
			45.4	55	3	10		1	1	0	sandy	0	6.8	138	6.3	3	3	220	3	1	24	360	1	16.7	25	3	20	10	14800	100	25	0.4	12	10	0.1	4	11	2.4	4	100	30	45	14	3.2	0.9	1	2.4	0.5	45.49	6.1	0.1	10	27	0.1	1	3	0	7	1
			38.6	50	tr	0		1	1	0	silty basal	0	5.7	143	5.5	3	1	340	3	1	17	160	1	10.3	59	3	20	10	17800	100	25	0.1	14	10	0.1	1	13	2.9	2	100	41	67	22	4.9	1.4	1	3.6	0.8	38.50	3.0	0.1	10	39	0.1	5	3	0	6	1
			27.9	20	tr	0		0	2	0	silty	0	9.8	365	10.2	3	1	100	3	1	21	240	1	14.7	110	3	20	10	15700	100	25	0.4	17	10	0.1	1	23	5.1	2	100	64	93	43	6.5	2.0	1	6.5	1.3	27.91	3.1	0.1	5	47	0.1	5	3	0	10	2
			33.9	5	tr	20		2	1	0	ablation	0	5.0	77	2.7	3	6	100	3	1	28	310	1	10.9	28	3	20	10	15500	100	25	0.1	30	10	0.1	1	10	3.6	2	210	33	55	25	4.3	1.2	1	8.1	1.3	35.57	6.2	0.1	23	61	0.1	7	3	0	5	1
	1 SA		37.4	15	tr	5		1	2	0	basal	2	148.1	3250	121.4	3	4	450	3	1	32	280	2	19.8	53	3	20	10	11500	100	25	0.4	18	10	0.1	2	23	5.1	2	260	55	80	43	6.1	1.1	1	5.2	1.1	37.36	6.5	0.1	46	50	0.1	8	6	2	148	41
			41.1	30	0	tr		1	1	0	basal	2	5.7	56	2.3	3	1	100	3	1	13	120	1	5.5	33	3	20	10	16800	100	25	0.1	12	10	0.1	1	12	2.5	2	100	29	45	23	4.0	1.4	1	3.1	0.6	41.21	5.6	0.1	25	69	0.1	6	7	2	6	2
A			29.5	15	tr	0		1	1	0	basal	5	79.8	1600	47.1	3	5	240	3	1	22	280	1	15.9	44	3	20	10	13600	100	61	0.1	14	10	0.1	3	21	4.1	7	100	110	160	63	10.0	2.4	1	5.1	0.9	29.44	10.0	0.1	13	55	0.1	11	7	5	80	22
			23.4					0	1	0	basal	0	63.3	1290	38.9	3	4	210	3	1	22	250	1	18.1	83	3	20	10	14800	100	61	0.3	17	10	0.1	3	19	5.3	11	100	74	110	64	8.6	2.0	1	7.6	1.5	30.16	4.9	0.1	7	63	0.1	8	3	0	63	13
			21.8	5	tr	0		1	1	0	basal	0	4.9	147	3.2	3	9	320	3	1	17	160	1	10.3	40	3	20	10	15500	100	25	0.6	17	10	0.1	4	12	3.2	2	100	41	64	45	6.2	1.8	1	4.3	0.9	21.70	4.0	0.1	14	104	0.4	12	3	0	5	1
			46.5	25	tr	5		0	2	0	basal	2	11.4	167	6.2	3	1	100	3	1	16	200	1	10.6	56	3	20	10	15900	100	55	0.1	14	10	0.1	1	15	3.4	2	100	42	63	36	5.3	1.3	1	4.5	0.9	37.22	3.8	0.1	6	58	0.6	9	6	2	11	4
			23.7	30	0	5		1	1	0	basal	0	5.2	143	3.6	3	9	280	3	1	34	370	1	16.8	78	3	20	10	11600	100	25	0.4	27	10	0.1	5	24	5.6	2	100	59	91	40	7.8	1.7	1	8.3	1.6	24.96	15.0	0.1	10	57	0.9	11	7	0	5	1
			33.8	5	tr	tr		1	1	0	basal	0	9.7	241	8.1	3	3	470	3	2	22	260	3	12.1	42	3	20	10	13300	100	59	0.3	17	10	0.1	1	22	3.8	2	100	50	77	51	6.9	1.4	1	5.3	0.9	33.74	4.1	0.1	7	81	0.1	9	5	0	10	2
			24.5	5	tr	10		0	1	0	basal	0	5.0	171	4.2	3	1	100	3	1	15	140	1	5.7	26	3	20	10	14600	100	25	0.1	19	10	0.1	1	19	3.7	2	100	51	75	44	6.6	1.3	1	4.1	0.7	24.66	2.2	0.1	14	67	0.2	10	3	0	5	1
			34.2	15	0	5		0	1	0	basal	0	4.7	115	3.9	3	3	360	3	1	19	200	1	10.6	49	3	20	10	16400	100	75	0.1	13	10	0.1	1	19	4.8	2	100	50	70	25	5.5	1.2	1	4.8	1.0	34.10	1.7	0.1	9	25	0.6	5	6	0	5	1
			26.4	5	2	3		0	2	0	basal	0	13.3	202	5.3	3	8	330	5	2	22	160	1	7.7	27	3	20	10	14500	100	25	0.5	21	10	0.1	1	11	3.3	2	100	41	68	39	5.5	1.6	1	4.0	0.7	26.41	10.0	0.1	19	45	0.1	9	5	0	13	3
			28.4	25	4	3		1	1	0	basal	1	10.7	279	7.9	3	4	100	3	1	34	390	1	20.0	63	3	20	10	15000	100	25	0.6	20	10	0.1	1	31	8.3	2	100	80	120	54	9.4	1.5	1	8.1	1.4	28.30	1.4	0.1	15	36	0.3	6	3	1	11	3
	1 SA		39.6	30	tr	0		1	1	0	basal	3	62.0	1250	49.6	3	4	390	3	1	15	190	1	9.2	46	3	20	10	14400	100	25	0.5	13	10	0.1	4	22	4.7	2	100	63	87	33	6.3	1.2	1	4.1	0.9	39.65	4.0	0.1	16	29	0.3	8	22	3	62	25
			32.5	15	0	0		1	2	0	silty basal	0	0.5	22	0.7	3	2	290	3	3	36	560	1	11.0	69	3	20	10	12400	100	25	0.1	35	10	0.1	1	14	4.2	2	100	40	59	39	5.9	1.5	1	6.2	1.1	32.44	1.6	0.1	21	32	0.3	4	3	0	1	0
			31.9	15	0	5		3	1	0	silty basal	0	0.1	3	0.1	3	2	100	3	1	42	720	1	14.8	41	3	20	10	10800	100	25	0.4	34	10	0.1	1	11	2.8	180	100	32	48	40	4.7	1.2	1	6.9	1.1	31.78	2.7	0.1	20	39	0.1	5	3	0	0	0
			36.5	30	0	0		1	1	0	basal	0	1.3	38	1.4	3	4	100	3	3	51	700	1	20.7	34	3	20	10	10700	100	25	0.9	26	10	0.1	2	11	1.0	7	230	31	51	31	4.4	1.0	1	5.7	1.0	36.38	2.6	0.1	17	53	0.1	6	3	0	1	0
			48.0	25	0	tr		1	1	0	silty basal	1	4.1	120	5.7	3	1	230	3	1	33	550	1	16.9	27	3	20	10	12500	100	25	0.3	17	10	0.1	3	10	0.7	2	100	31	49	21	4.0	0.8	1	2.6	0.5	47.90	2.4	0.1	24	21	0.1	4	3	1	4	2
			30.5	25	0	5		2	1	0	silty basal	1	4.1	176	5.4	3	1	100	3	1	49	960	1	23.2	53	3	20	10	9970	100	25	0.1	26	10	0.1	5	18	3.5	15	220	49	80	35	6.0	1.4	1	5.4	1.2	30.52	2.2	0.1	20	32	0.3	5	9	1	4	3
			22.2	5	0	0		0	1	0	silty basal	0	0.1	3	0.1	3	1	100	3	3	27	470	1	9.8	61	3	20	10	14100	100	25	0.1	40	10	0.1	3	17	4.9	2	100	50	82	41	7.6	1.7	1	14.3	2.4	22.13	2.7	0.1	15	37	0.2	7	5	0	0	0
			36.6	15	3	tr		0	2	0	basal	0	14.2	349	12.8	3	1	290	3	1	20	320	1	11.4	81	3	20	10	14500	100	25	0.1	18	10	0.1	3	22	4.8	2	100	64	98	31	6.5	1.7	1	6.0	1.3	36.54	2.8	0.1	14	52	0.1	7	3	0	14	3
			41.2	10	tr	5		1	2	0	basal	0	4.2	75	3.1	3	2	400	3	1	20	190	3	10.8	42	3	20	10	14800	100	25	0.1	17	10	0.1	3	13	2.5	2	100	36	56	25	4.0	1.2	1	3.8	0.9	41.22	2.8	0.1	7	36	0.1	7	3	0	4	1
			40.8	60	3	0		0	2	0	basal	0	11.0	300	12.2	3	26	100	3	3	23	370	1	14.5	94	3	20	10	13900	100	25	0.1	23	10	0.1	7	27	5.9	2	100	76	110	43	6.7	1.3	1	6.6	1.5	40.81	55.0	0.1	12	19	0.1	7	11	0	11	3
			27.4	15	tr	0		1	1	0	basal	0	40.8	1650	45.1	3	1	100	3	1	35	520	1	31.5	62	3	20	10	9870	100	25	0.1	14	10	0.1	5	33	5.0	2	100	75	110	42	6.6	1.3	1	4.2	0.9	27.31	1.7	0.1	10	21	0.1	6	3	0	41	8
			21.3	20	0	0		1	1	0	basal	0	1.2	34	0.7	3	3	550	3	5	22	250	1	13.3	47	3	20	10	12500	100	25	0.5	24	10	0.1	1	16	4.9	2	100	48	83	31	5.5	1.6	2	5.1	1.1	21.49	4.8	0.1	13	45	0.1	11	3	0	1	0
			22.9	20	0	0		0	1	0	basal	0	17.1	543	12.4	3	1	100	3	7	45	860	1	29.8	210	3	20	10	7550	100	25	0.1	29	10	0.1	7	62	11.0	2	100	170	250	76	16.0	2.3	2	12.7	2.6	22.86	2.7	0.1	8	20	0.1	5	5	0	17	4
			43.2	50	tr	0		1	2	0	basal	2	22.6	471	20.4	3	2	230	3	1	24	320	1	14.3	51	3	20	10	12400	100	25	0.1	15	10	0.1	1	20	2.6	2	100	57	81	29	4.9	1.1	1	4.5	1.0	43.24	4.8	0.1	11	31	0.1	5	3	2	23	5
			39.0	tr	0	0		1	2	0	basal	0	125.7	2170	84.9	3	4	300	5	1	18	210	1	6.7	54	3	20	10	16900	100	25	0.1	17	10	0.1	1	20	3.4	2	100	67	98	38	6.7	1.4	1	4.0	0.8	39.11	8.6	0.1	23	29	0.2	8	5	0	126	25
			43.4	50	3	0		1	1	0	basal	0	10.6	236	10.2	3	1	300	3	2	20	370	1	11.4	57	3	20	10	15600	100	25	0.1	14	10	0.1	2	24	3.6	2	100	68	99	27	6.0	1.1	1	4.3	0.8	43.43	5.6	0.1	10	26	0.1	5	3	0	11	2
			39.5	60	3	0		0	1	0	basal	0	65.7	1020	40.4	3	1	200	3	1	23	330	1	13.5	57	3	20	10	14700	100	25	0.3	18	10	0.1	3	16	3.9	2	100	48	66	25	4.7	0.9	1	5.6	1.2	39.62	4.3	0.1	15	45	0.1	6	19	0	66	14
			40.2	10	0	tr		1	1	0	ablation	0	1.7	16	0.6	3	2	360	3	2	31	400	1	12.3	24	3	20	10	16000	100	25	0.1	19	10	0.1	4	6	1.9	2	100	18	37	17	2.6	0.9	1	3.3	0.6	40.17	8.4	0.1	66	75	0.1	11	3	0	2	0
			36.1	10	tr	0		1	0	0	silty basal	0	2.6	60	2.2	3	3	320	3	1	35	450	1	14.7	67	3	20	10	15000	100	25	0.5	24	10	0.1	4	14	5.9	17	100	44	62	34	4.8	1.4	1	5.4	1.1	35.98	4.9	0.6	25	72	0.2	9	3	0	3	1
			16.8	5	tr	0		2	2	0	silty basal	0	2.0	75	1.3	3	4	100	3	1	25	240	1	10.0	67	3	20	10	17900	100	25	0.6	27	10	0.1	1	11	3.5	2	100	37	60	25	4.8	1.5	1	7.7	1.5	16.68	2.5	0.1	13	51	0.1	8	3	0	2	0
			22.2	15	0	0		1	0	0	basal	0	0.1	3	0.1	3	1	100	7	1	35	320	1	11.3	50	3	20	10	17100	100	25	0.1	28	10	0.1	4	14	4.5	12	200	49	83	24	5.4	1.5	1	5.2	0.7	22.04	2.3	0.1	22	29	0.1	4	3	0	0	0
			29.9	20	1	0		1	1	0	stoney basal	0	1.7	44	1.3	3	4	300	3	1	37	490	1	16.3	55	3	20	10	15600	100	25	0.1	23	10	0.1	3	12	3.0	8	230	49	69	22	4.3	1.1	1	5.1	0.8	29.75	5.5	0.1	31	55	0.1	12	5	0	2	0
			31.0	15	3	0		1	2	0	sandy	1	8.1	195	6.0	3	1	460	3	1	21	220	1	10.2	57	3	20	10	16800	100	25	0.1	16	10	0.1	3	11	2.8	2	100	37	52	27	4.0	0.9	1	3.5	0.6	30.99	2.2	0.1	5	18	0.2	8	3	1	8	3
			31.1	40	2	tr		0	2	0	good till	0	0.4	12	0.4	3	1	350	3	1	45	320	1	21.0	30	3	20	10	13600	100	25	0.3	19	10	0.1	1	10	2.9	2	230	31	43	17	3.7	0.9	1	2.8	0.5	31.11	0.5	0.1	13	25	0.1	4	3	0	0	0
			24.7	20	tr	20		0	3	0	basal	0	6.7	274	6.8	3	3	480	3	1	28	880	1	15.8	150	3	20	10	16700	100	25	0.1	30	10	0.1	1	130	12.0	2	100	310	440	160	35.0	2.4	1	11.0	2.2	24.67	2.1	0.1	2	11	0.1	4	3	0	7	1
			26.7	10	2	0		1	1	0	basal	0	1.5	49	1.3	9	1	400	3	3	26	200	1	14.0	58	3	20	10	19400	100	72	0.1	18	10	0.1	1	40	5.6	21	100	120	170	75	12.0	1.6	1	4.5	0.8	26.64	2.0	0.1	12	32	0.1	6	3	0	1	0
			24.3	25	tr	10		2	2	0	sandy	0	1.0	38	0.9	3	1	100	3	1	29	680	1	14.8	89	3	20	10	21800	100	25	0.1	25	10	0.1	5	17	6.3	2	100	58	87	39	6.0	1.4	1	6.7	1.3	24.19	1.4	0.1	8	13	0.1	8	3	0	1	0
			36.9	25	3	tr		1	1	0	basal	0	0.1	3	0.1	3	1	100	3	1	28	230	1	11.2	50	3	20	10	18900	100	25	0.1	21	10	0.1	1	20	4.5	2	200	75	110	45	7.7	1.6	1	4.3	0.9	36.77	0.5	0.1	7	28	0.1	7	3	0	0	0
			28.2	80	2	5		1	2	0	basal	1	5.8	178	5.0	3	1	320	3	2	36	460	1	18.6	59	3	20	10	16300	100	25	0.3	18	10	0.1	2	19	4.9	4	100	56	86	33	6.0	1.1	1	3.2	0.8	28.07	1.6	0.1	11	21	0.1	6	3	1	6	2
			16.7	40	tr	0		1	1	0	basal	0	3.2	172	2.9	3	1	100	3	1	27	440	2	12.3	93	3	20	10	19700	100	51	0.1	29	10	0.1	4	43	8.5	2	100	150	250	95	17.0	2.3	1	8.5	1.5	16.59	2.3	0.1	11	36	0.1	11	3	0	3	1
			30.6					2	2	0	gravelly	0	6.6	215	6.8	3	2	360	3	3	30	610	1	13.5	60	3	20	10	18700	100	25	0.3	25	10	0.1	3	27	3.8	5	100	86	130	54	9.3	1.3	1	6.6	1.3	31.54	2.4	0.1	110	62	0.1	14	3	0	7	1
			23.0	40	tr	0		1	1	0	basal	0	0.4	16	0.4	3	1	460	3	3	30	360	1	19.6	41	3	20	10	21300	100	25	0.1	15	10	0.1	1	13	2.3	2	220	41	63	24	4.7	1.2	1	3.0	0.7	22.90	0.5	0.5	11	27	0.1	10	3	0	0	0
			20.0	10	0	0		0	0	0	basal	0	5.2	158	3.2	3	3	580	3	1	15	110	1	5.7	88	3	20	67	17600	100	25	0.3	18	10	0.1	2	31	36.0	2	100	57	110	49	12.0	2.0	4	22.1	3.9	19.96	2.8	0.1	9	19	0.1	14	7	0	5	1
			28.6	25	tr	tr		1	2	0	basal	6	29.8	817	23.2	3	1	460	3	1	76	500	1	32.8	32	3	20	10	11200	100	25	0.1	26	10	0.1	4	27	3.8	45	310	81	110	42	7.7	0.9	1	3.2	0.6	28.43	2.3	0.1	14	35	0.1	10	3	6	30	10
			32.7	15	2	tr		1	1	0	basal	4	10.1	311	10.1	3	2	340	3	1	47	320	1	18.5	29	3	20	10	14900	100	25	0.1	23	10	0.1	3	16	2.6	2	240	51	71	25	5.2	1.0	1	2.9	0.5	32.45	2.0	0.1	16	27	0.2	6	3	4	10	4
			36.4	15	2	3		0	2	0	basal	1	3.4	73	2.6	3	3	100	3	1	48	400	1	20.6	38	3	20	10	13600	100	25	0.1	21	10	0.1	5	34	3.3	2	280	110	150	61	9.5	1.1	1	3.4	0.7	36.17	1.6	0.1	15	22	0.1	5	3	1	3	1
			32.4	15	tr	tr		1	1	0	basal	3	3.0	109	3.5	3	2	100	3	3	48	350	1	21.0	28	3	20	10	14400	100	25	0.1	18	10	0.1	1	29	3.0	2	210	80	120	31	7.5	0.9	1	2.3	0.4	32.17	1.5	0.1	11	22	0.1	4	3	3	3	4
			36.9	30	tr	5		1	2	0	sandy	2	1.9	56	2.0	3	1	480	3	1	39	340	1	13.0	58	3	20	10	15400	100	25	0.1	24	10	0.1	4	48	5.1	2	100	150	200	85	13.0	1.5	1	5.2	0.8	36.52	0.5	0.1	10	21	0.2	7	3	2	2	1
			30.7	20	tr	4		1	2	0	basal	4	20.3	886	27.0	3	1	100	3	1	31	520	1	12.1	94	3	20	10	18300	100	25	0.4	26	10	0.1	6	130	11.0	10	100	410	540	230	36.0	2.7	1	7.9	1.5	30.48	0.5	0.1	30	32	0.1	12	3	4	20	8
			29.3	20	tr	10		1	2	0	silty basal	0	0.5	20	0.6	3	1	100	3	1	29	250	5	14.2	68	3	20	10	14800	100	25	0.1	44	10	0.1	6	120	9.0	11	100	380	520	170	33.0	2.0	1	12.4	2.1	29.16	0.5	0.1	10	43	0.1	16	3	0	1	0
			40.1	30	3	3		1	2	0	basal/ablation	2	15.1	320	12.8	3	1	100	3	1	57	320	1	23.7	33	3	20	10	11000	100	25	0.1	21	10	0.1	4	63	5.5	9	320	230	280	54	16.0	1.3	3	3.5	0.8	40.01	0.5	0.1	13	35	0.1	7	3	2	15	5
			36.8	20	3	tr		0	1	0	sandy	1	3.0	69	2.5	3	1	460	3	4	51	270	1	21.6	33	3	20	10	16000	310	25	0.1	23	10	0.1	1	50	4.6	18	310	140	200	64	13.0	1.4	1	4.1	0.9	36.62	8.5	0.1	74	63	0.1	16	3	1	3	1
			37.4	35	5	20		1	3	0	sandy clay	1	2.2	78	2.9	3	1	100	3	1	24	580	1	11.2	110	3	20	10	17100	100	25	0.1	33	10	0.1	6	190	17.0	44	200	590	710	250	46.0	3.1	5	11.5	1.8	37.20	2.3	0.1	4	14	0.1	9	3	1	2	1
			43.8	25	5	5		1	2	0	sandy	3	5.1	120	5.2	3	1	100	3	1	25	310	4	9.2	64	3	20	10	17800	360	25	0.1	22	10	0.1	1	160	18.0	2	100	490	630	230	40.0	2.5	6	8.3	1.1	43.54	1.5	0.1	7	20	0.1	9	3	3	5	4
			39.4	25	5	5		0	1	0	basal	0	0.3	7	0.3	3	1	430	3	1	24	820	1	19.6	68	3	20	10	16600	100	25	0.1	16	10	0.1	5	24	4.3	2	100	55	78	25	6.2	1.3	1	5.4	1.0	39.20	1.7	0.1	15	27	0.3	10	3	0	0	0
			28.8	20	2	tr		1	2	0	silty	0	8.6	276	7.9	3	1	100	3	1	25	360	1	21.6	94	3	20	10	17000	240	91	0.1	21	10	0.1	6	36	9.0	2	100	76	110	35	7.4	1.7	1	8.8	1.8	28.67	2.0	0.1	6	23	0.1	7	3	0	9	2
			33.1	25	tr	5		0	1	0	silty	1	1.4	67	2.2	3	1	490	3	1	25	440	1	29.2	54	3	20	10	17000	100	25	0.1	10	10	0.1	6	25	6.1	2	100	54	83	23	5.6	1.4	1	3.3	0.7	32.99	0.5	0.1	6	16	0.1	6	3	1	1	2
			30.8	15	tr	5		0	1	0	basal	0	1.2	44	1.4	3	1	490	3	1	21	270	1	14.8	100	3	20	10	19100	100	68	0.1	21	10	0.1	7	45	9.2	2	100	110	150	61	9.8	1.9	1	8.7	1.6	30.72	1.7	0.1	7	24	0.1	8	3	0	1	0
			36.8	15	tr	5		1	2	0	silty	3	1.5	33	1.2	3	1	100	3	2	23	380	1	12.8	53	3	20	10	13900	100	25	0.1	19	10	0.1	5	14	3.7	2	100	38	57	37	5.6	1.3	1	6.0	1.2	36.63	3.0	0.1	11	22	0.3	6	3	3	2	2
			49.9	30	tr	5		1	2	0	sandy till	10	21.4	300	14.9	3	5	270	3	3	29	560	1	13.9	39	3	20	10	14700	100	25	0.1	15	10	0.1	4	12	2.9	2	100	41	57	38	4.6	1.0	1	4.0	0.7	49.66	3.0	0.1	7	18	0.1	2	3	10	21	13
[illegible]																																																											

CE PROGRAM

.4 mm Shape	.4-.5 mm No.	Shape	>.5 mm No.	Shape	Wgt. (gm.)	CONCENTRATE Mag %	Py %	Gar %	Misc.	Ultraviolet lamp Sch	Zir	Rad	NOTES	NORMALIZED VALUES GOLD grains	GOLD microgm
					37.5	25	tr	5		2	2	0	basal	5	23.3
					45.4	25	tr	20		1	1	0	basal	5	5.8
					39.3	20	tr	10		1	2	0	basal	8	11.2
					40.8	10	0	60		1	2	0	basal	6	19.7
					42.5	25	5	20		0	1	0	basal	7	19.8
					41.6	20	0	15		1	1	0	basal	4	4.2
					28.0	10	5	20		0	2	0		2	2.7
					17.5	10	5	tr		1	0	0	basal	0	0.1
					37.2	35	tr	5		0	1	0	basal	0	1.2
					37.0	25	8	4		1	1	0	basal	3	2.7
					51.9	35	5	0		1	1	0	sandy	2	2.2
					43.0	25	10	0		0	1	0	semi basal	0	2.4
					46.7	30	15	5		1	2	0	basal	2	3.0

CONCENTRATE ASSAYS

Au ppb det 5	Au mgn	Ag ppm 5	As ppm 2	Ba ppm 200	Br ppm 5	Ca % 1	Co ppm 5	Cr ppm 10	Cs ppm 2	Fe % 0.0	Hf ppm 1	Hg ppm 5	Ir ppb 40	Mo ppm 20	Na ppm 500	Ni ppm 200	Rb ppm 50	Sb ppm 0.2	Sc ppm 0.10	Se ppm 20	Sr % 0.2	Ta ppm 1	Th ppm 1	U ppm 0.5	W ppm 4	Zn ppm 200	La ppm 1	Ce ppm 3	Nd ppm 10	Sm ppm 0.1	Eu ppm 0.2	Tb ppm 2	Yb ppm 0.2	Lu ppm 0.1	Mass gm
506	18.9	3	1	100	3	1	14	220	1	18.8	47	3	20	10	12300	100	25	0.1	24	10	0.1	6	33	6.2	10	100	53	81	36	5.4	0.9	1	9.1	1.9	37.27
106	4.8	3	1	310	3	2	13	140	1	9.6	53	3	20	10	13200	100	25	0.1	31	10	0.1	6	23	5.5	2	100	42	71	22	5.4	1.2	1	13.1	2.3	45.22
209	8.2	3	1	100	3	1	14	200	1	21.9	48	3	20	10	10600	100	25	0.1	28	10	0.1	12	40	10.0	2	100	53	89	30	6.2	1.1	2	15.4	2.8	39.24
412	16.8	3	1	100	3	1	10	150	1	9.1	74	3	20	10	13300	100	25	0.1	45	10	0.1	14	35	12.0	2	100	50	86	31	6.3	1.2	3	25.5	4.5	40.72
413	17.5	3	1	290	3	1	13	190	1	22.2	39	3	20	10	11200	100	25	0.1	19	10	0.1	8	22	11.0	2	100	40	60	25	4.1	1.0	1	9.4	1.9	42.37
48	2.0	3	1	100	3	2	11	120	1	9.8	37	3	20	10	16900	100	56	0.1	27	10	0.1	6	18	5.0	2	100	41	73	29	5.3	1.4	1	11.3	2.1	41.51
54	1.5	3	1	570	3	3	11	270	1	7.2	65	3	20	10	16200	100	25	0.1	24	10	0.1	7	26	7.8	2	100	56	91	32	6.7	1.5	1	11.5	2.1	27.84
3	0.1	3	5	390	3	1	22	200	1	10.1	49	3	20	10	19100	100	25	0.1	21	10	0.1	3	12	4.1	2	100	31	57	33	5.2	1.8	1	5.2	1.0	17.39
26	1.0	3	4	310	3	1	14	230	1	18.0	35	3	20	10	14500	100	25	0.1	14	10	0.1	4	18	5.3	2	200	36	62	15	3.8	1.0	1	4.5	0.9	37.08
45	1.7	3	1	100	3	3	18	190	1	21.2	25	3	20	10	11900	100	25	0.1	15	10	0.1	5	16	4.2	2	220	26	46	15	2.9	0.6	1	3.8	0.9	36.89
38	2.0	3	1	250	3	2	12	130	1	16.2	17	3	20	10	12400	100	50	0.1	12	10	0.1	4	14	3.4	2	100	21	38	19	2.4	0.6	1	3.8	0.7	51.86
36	1.5	3	1	340	3	3	16	170	1	9.0	23	3	20	10	14400	100	25	0.3	19	10	0.1	3	9	3.4	2	100	19	35	19	3.4	1.2	1	3.5	0.7	42.98
69	3.2	3	2	100	3	1	19	140	1	16.2	120	3	20	10	15400	100	25	0.3	14	10	0.1	6	17	8.5	2	100	23	46	5	4.1	1.6	2	16.3	3.2	46.57

CHARACTER SAMPLES / NORMALIZED VALUES normalized to 20 kg. of -6 mm material

As ppm 1	Sb ppm 0	Cu ppm 1	Zn ppm 1	Ag ppm 0	Pb ppm 2	Au ppb 5	GOLD grains	GOLD micrograms	GOLD RATING
3.1	0.1	5	30	0.1	5	3	5	23	9
1.9	0.1	17	21	0.1	4	3			
1.4	0.1	19	30	0.1	4	3	5	6	7
1.3	0.1	9	26	0.1	4	3	8	11	7
0.5	0.1	3	19	0.1	4	3	6	20	10
1.1	0.1	9	20	0.1	1	3	7	20	9
2.8	0.5	17	52	0.1	12	3	4	4	3
2.5	0.4	13	28	0.1	9	3	2	3	2
7.6	0.1	18	42	0.1	14	3	0	0	0
3.4	0.1	16	29	0.1	8	3	0	1	0
4.0	0.1	13	66	0.1	11	3	3	3	3
2.3	0.1	13	21	0.1	10	3	2	2	3
7.7	0.5	13	51	0.1	14	3	0	2	1
4.0	0.1	9	28	0.1	15	3	2	3	3